

WEBVTT

NOTE duration:"00:58:16.310000"

NOTE recognizability:0.848

NOTE language:en-us

NOTE Confidence: 0.739211703461538

00:00:00.000 --> 00:00:03.888 Instead, it is for me a great pleasure

NOTE Confidence: 0.739211703461538

00:00:03.888 --> 00:00:06.668 to introduce Doctor Tamar Kali,

NOTE Confidence: 0.739211703461538

00:00:06.670 --> 00:00:09.169 who is now Professor of Internal Medicine

NOTE Confidence: 0.739211703461538

00:00:09.169 --> 00:00:11.548 and the Department of Internal Medicine,

NOTE Confidence: 0.739211703461538

00:00:11.550 --> 00:00:14.558 but also the Chief of Gas and Technology

NOTE Confidence: 0.739211703461538

00:00:14.558 --> 00:00:17.276 and the VA Connecticut healthcare system.

NOTE Confidence: 0.739211703461538

00:00:17.276 --> 00:00:21.509 And this is not a small place, in fact she.

NOTE Confidence: 0.739211703461538

00:00:21.509 --> 00:00:23.974 Is there after Harold Kahn,

NOTE Confidence: 0.739211703461538

00:00:23.980 --> 00:00:27.669 Roberta Grossman and Lupica sits house so

NOTE Confidence: 0.739211703461538

00:00:27.669 --> 00:00:32.460 she has a great legacy to uphold and we.

NOTE Confidence: 0.739211703461538

00:00:32.460 --> 00:00:33.620 Certainly, sure.

NOTE Confidence: 0.739211703461538

00:00:33.620 --> 00:00:38.350 She'll do even even better in the VA system.

NOTE Confidence: 0.739211703461538

00:00:38.350 --> 00:00:42.175 She directs the cancer program and also has

NOTE Confidence: 0.739211703461538

00:00:42.175 --> 00:00:46.080 been very active in the VA system at large.

NOTE Confidence: 0.739211703461538

00:00:46.080 --> 00:00:50.628 Where she. Ryan, Sir.

NOTE Confidence: 0.739211703461538

00:00:50.628 --> 00:00:53.198 Some very important multicenter trial

NOTE Confidence: 0.739211703461538

00:00:53.198 --> 00:00:56.226 among them some already famous like

NOTE Confidence: 0.739211703461538

00:00:56.226 --> 00:00:59.850 the vocal other on the statins will

NOTE Confidence: 0.739211703461538

00:00:59.850 --> 00:01:04.075 soon be available and and and also a

NOTE Confidence: 0.739211703461538

00:01:04.075 --> 00:01:07.400 new recent very large grant on the

NOTE Confidence: 0.739211703461538

00:01:07.507 --> 00:01:10.525 use of abbreviated MRI to screen for

NOTE Confidence: 0.739211703461538

00:01:10.525 --> 00:01:14.240 liver cancer and this is another great.

NOTE Confidence: 0.739211703461538

00:01:14.240 --> 00:01:14.978 I could give it to you.

NOTE Confidence: 0.739211703461538

00:01:14.980 --> 00:01:17.980 She is a great mentor for a number of hours.

NOTE Confidence: 0.802867781666667

00:01:21.770 --> 00:01:24.710 Fellows and trainee and and I like

NOTE Confidence: 0.802867781666667

00:01:24.710 --> 00:01:28.091 to think that she has been a trainee

NOTE Confidence: 0.802867781666667

00:01:28.091 --> 00:01:30.942 here for many, many years and we

NOTE Confidence: 0.802867781666667

00:01:30.942 --> 00:01:33.390 were pleased to see her growth.

NOTE Confidence: 0.802867781666667

00:01:33.390 --> 00:01:36.654 So in a way, she is the witness

NOTE Confidence: 0.802867781666667  
00:01:36.654 --> 00:01:39.003 of the Yale education system.  
NOTE Confidence: 0.802867781666667  
00:01:39.003 --> 00:01:42.069 And how Michelangelo used to say,  
NOTE Confidence: 0.802867781666667  
00:01:42.070 --> 00:01:47.070 after she stopped sculpturing the Moses,  
NOTE Confidence: 0.802867781666667  
00:01:47.070 --> 00:01:49.950 he said, why don't you talk?  
NOTE Confidence: 0.802867781666667  
00:01:49.950 --> 00:01:51.846 Well, our masterpieces talk,  
NOTE Confidence: 0.802867781666667  
00:01:51.846 --> 00:01:55.377 and here I can give you some  
NOTE Confidence: 0.802867781666667  
00:01:55.377 --> 00:01:57.758 metadata on the episode casino.  
NOTE Confidence: 0.852953031428571  
00:02:00.190 --> 00:02:03.270 Thanks so much Mario for the introduction.  
NOTE Confidence: 0.852953031428571  
00:02:03.270 --> 00:02:05.636 So Mario actually has been my clinical  
NOTE Confidence: 0.852953031428571  
00:02:05.636 --> 00:02:08.189 mentor for going on a couple decades now,  
NOTE Confidence: 0.852953031428571  
00:02:08.190 --> 00:02:11.180 not quite yet, a couple decades, but.  
NOTE Confidence: 0.852953031428571  
00:02:11.180 --> 00:02:13.616 He actually started the first tumor  
NOTE Confidence: 0.852953031428571  
00:02:13.616 --> 00:02:16.538 conference for HCC at Yale and I was  
NOTE Confidence: 0.852953031428571  
00:02:16.538 --> 00:02:19.020 part of that conference as a trainee.  
NOTE Confidence: 0.852953031428571  
00:02:19.020 --> 00:02:20.434 And actually what I learned from him,  
NOTE Confidence: 0.852953031428571

00:02:20.440 --> 00:02:21.400 I took to the VA.  
NOTE Confidence: 0.852953031428571

00:02:21.400 --> 00:02:23.512 So we have a a really nice network  
NOTE Confidence: 0.852953031428571

00:02:23.512 --> 00:02:25.309 of regional tumor boards which  
NOTE Confidence: 0.852953031428571

00:02:25.309 --> 00:02:26.917 have been incredibly fruitful.  
NOTE Confidence: 0.852953031428571

00:02:26.920 --> 00:02:28.738 So I'm going to talk about a lot today.  
NOTE Confidence: 0.852953031428571

00:02:28.740 --> 00:02:30.990 I'm hoping to really impart what's  
NOTE Confidence: 0.852953031428571

00:02:30.990 --> 00:02:33.960 going on in current practice and pearls,  
NOTE Confidence: 0.852953031428571

00:02:33.960 --> 00:02:35.556 but mostly a lot of puzzles.  
NOTE Confidence: 0.852953031428571

00:02:35.560 --> 00:02:37.424 So if you come away with more questions  
NOTE Confidence: 0.852953031428571

00:02:37.424 --> 00:02:38.742 than answers, that's the objective.  
NOTE Confidence: 0.852953031428571

00:02:38.742 --> 00:02:41.290 There are a lot of questions right now in HC.  
NOTE Confidence: 0.852953031428571

00:02:41.290 --> 00:02:42.858 And I'm going to talk a little  
NOTE Confidence: 0.852953031428571

00:02:42.858 --> 00:02:44.287 bit about the work we've been  
NOTE Confidence: 0.852953031428571

00:02:44.287 --> 00:02:45.925 doing both at Yale and the VA.  
NOTE Confidence: 0.852953031428571

00:02:45.930 --> 00:02:47.510 I have no disclosures other  
NOTE Confidence: 0.852953031428571

00:02:47.510 --> 00:02:49.090 than I'm not an oncologist,

NOTE Confidence: 0.852953031428571

00:02:49.090 --> 00:02:51.134 I'm a hepatologist and so I may

NOTE Confidence: 0.852953031428571

00:02:51.134 --> 00:02:53.109 use acronyms you don't understand.

NOTE Confidence: 0.852953031428571

00:02:53.110 --> 00:02:55.504 I'm hoping I will explain them all,

NOTE Confidence: 0.852953031428571

00:02:55.510 --> 00:02:56.810 but if you have questions,

NOTE Confidence: 0.852953031428571

00:02:56.810 --> 00:02:59.070 by all means, don't hesitate.

NOTE Confidence: 0.852953031428571

00:02:59.070 --> 00:03:01.254 So my objectives are for you to

NOTE Confidence: 0.852953031428571

00:03:01.254 --> 00:03:02.642 understand the present state

NOTE Confidence: 0.852953031428571

00:03:02.642 --> 00:03:04.607 really of biomarkers and potential

NOTE Confidence: 0.852953031428571

00:03:04.607 --> 00:03:06.179 emerging biomarkers in HCC,

NOTE Confidence: 0.852953031428571

00:03:06.180 --> 00:03:07.990 to understand the importance of

NOTE Confidence: 0.852953031428571

00:03:07.990 --> 00:03:09.438 multidisciplinary management of HTC

NOTE Confidence: 0.852953031428571

00:03:09.438 --> 00:03:11.061 and key stakeholders and decision

NOTE Confidence: 0.852953031428571

00:03:11.061 --> 00:03:12.867 making and to learn about new

NOTE Confidence: 0.852953031428571

00:03:12.921 --> 00:03:14.809 therapeutics and treatment paradigms.

NOTE Confidence: 0.852953031428571

00:03:14.810 --> 00:03:16.623 But mostly I think what I'm trying

NOTE Confidence: 0.852953031428571

00:03:16.623 --> 00:03:18.783 to impart is just how complex this  
NOTE Confidence: 0.852953031428571

00:03:18.783 --> 00:03:20.769 landscape has become and how essential  
NOTE Confidence: 0.852953031428571

00:03:20.826 --> 00:03:22.716 it is for us to work together  
NOTE Confidence: 0.852953031428571

00:03:22.716 --> 00:03:25.408 both clinically and at the bench.  
NOTE Confidence: 0.852953031428571

00:03:25.410 --> 00:03:27.554 So HTC as you know is a global  
NOTE Confidence: 0.852953031428571

00:03:27.554 --> 00:03:28.090 health problem.  
NOTE Confidence: 0.852953031428571

00:03:28.090 --> 00:03:30.474 This is a map of the world showing  
NOTE Confidence: 0.852953031428571

00:03:30.474 --> 00:03:32.453 the sort of different degrees  
NOTE Confidence: 0.852953031428571

00:03:32.453 --> 00:03:34.818 of blame for certain underlying  
NOTE Confidence: 0.852953031428571

00:03:34.818 --> 00:03:37.350 etiologies of chronic liver disease.  
NOTE Confidence: 0.852953031428571

00:03:37.350 --> 00:03:39.900 In the West it's been predominantly  
NOTE Confidence: 0.852953031428571

00:03:39.900 --> 00:03:40.750 hepatitis C,  
NOTE Confidence: 0.852953031428571

00:03:40.750 --> 00:03:43.030 in the east predominantly hepatitis B.  
NOTE Confidence: 0.852953031428571

00:03:43.030 --> 00:03:44.815 But what's really important here  
NOTE Confidence: 0.852953031428571

00:03:44.815 --> 00:03:47.511 is to note the prevalence of fatty  
NOTE Confidence: 0.852953031428571

00:03:47.511 --> 00:03:49.631 liver disease or non alcoholic

NOTE Confidence: 0.852953031428571

00:03:49.631 --> 00:03:51.311 steatohepatitis related liver disease

NOTE Confidence: 0.852953031428571

00:03:51.311 --> 00:03:53.677 as well as alcohol and the pandemic

NOTE Confidence: 0.852953031428571

00:03:53.677 --> 00:03:55.800 has brought to light a lot of issues.

NOTE Confidence: 0.852953031428571

00:03:55.800 --> 00:03:58.062 Regarding alcohol and a lot of

NOTE Confidence: 0.852953031428571

00:03:58.062 --> 00:04:00.230 sex disparities and alcohol and I

NOTE Confidence: 0.852953031428571

00:04:00.230 --> 00:04:02.319 think we're going to be seeing HC's

NOTE Confidence: 0.852953031428571

00:04:02.319 --> 00:04:04.293 related to really the synergies of

NOTE Confidence: 0.852953031428571

00:04:04.293 --> 00:04:05.830 things like metabolic syndrome,

NOTE Confidence: 0.852953031428571

00:04:05.830 --> 00:04:06.792 alcohol etcetera.

NOTE Confidence: 0.852953031428571

00:04:06.792 --> 00:04:09.678 So the epidemiology is definitely shifting.

NOTE Confidence: 0.852953031428571

00:04:09.680 --> 00:04:11.312 Viral hepatitis will always be a

NOTE Confidence: 0.852953031428571

00:04:11.312 --> 00:04:13.272 major issue and until we can you

NOTE Confidence: 0.852953031428571

00:04:13.272 --> 00:04:14.904 know essentially do the right public

NOTE Confidence: 0.852953031428571

00:04:14.904 --> 00:04:15.989 health thing globally,

NOTE Confidence: 0.852953031428571

00:04:15.990 --> 00:04:18.924 we're still going to have happy

NOTE Confidence: 0.852953031428571

00:04:18.924 --> 00:04:20.880 you know related HCC.  
NOTE Confidence: 0.852953031428571

00:04:20.880 --> 00:04:22.872 So HTC is a leading cause of liver  
NOTE Confidence: 0.852953031428571

00:04:22.872 --> 00:04:24.779 related and cancer related mortality.  
NOTE Confidence: 0.852953031428571

00:04:24.780 --> 00:04:27.090 So there are sort of competing  
NOTE Confidence: 0.852953031428571

00:04:27.090 --> 00:04:28.245 risks of death.  
NOTE Confidence: 0.852953031428571

00:04:28.250 --> 00:04:29.560 When you think about HTC,  
NOTE Confidence: 0.852953031428571

00:04:29.560 --> 00:04:31.324 you want to think about the person's  
NOTE Confidence: 0.852953031428571

00:04:31.324 --> 00:04:32.494 liver disease as potentially  
NOTE Confidence: 0.852953031428571

00:04:32.494 --> 00:04:34.279 a competition to their cancer  
NOTE Confidence: 0.852953031428571

00:04:34.279 --> 00:04:34.993 related mortality.  
NOTE Confidence: 0.852953031428571

00:04:35.000 --> 00:04:36.911 It is the leading cause of death  
NOTE Confidence: 0.852953031428571

00:04:36.911 --> 00:04:38.740 in cirrhosis and 1/3 of patients  
NOTE Confidence: 0.852953031428571

00:04:38.740 --> 00:04:40.325 will with cirrhosis will develop  
NOTE Confidence: 0.852953031428571

00:04:40.325 --> 00:04:41.859 HCC over their lifetime.  
NOTE Confidence: 0.852953031428571

00:04:41.860 --> 00:04:44.170 And you can see that it claims  
NOTE Confidence: 0.852953031428571

00:04:44.170 --> 00:04:46.398 upwards of almost a million deaths.

NOTE Confidence: 0.852953031428571  
00:04:46.400 --> 00:04:47.086 By 2025,  
NOTE Confidence: 0.852953031428571  
00:04:47.086 --> 00:04:48.801 we think globally will have  
NOTE Confidence: 0.852953031428571  
00:04:48.801 --> 00:04:49.830 a million deaths  
NOTE Confidence: 0.903506407857143  
00:04:49.903 --> 00:04:51.459 related to liver cancer.  
NOTE Confidence: 0.903506407857143  
00:04:51.460 --> 00:04:53.524 And chronic liver disease is really  
NOTE Confidence: 0.903506407857143  
00:04:53.524 --> 00:04:56.073 a prerequisite in 90% of the cases.  
NOTE Confidence: 0.903506407857143  
00:04:56.073 --> 00:04:58.419 But how much fibrosis is still  
NOTE Confidence: 0.903506407857143  
00:04:58.419 --> 00:05:01.070 an issue that we're studying.  
NOTE Confidence: 0.903506407857143  
00:05:01.070 --> 00:05:04.490 And we've seen a market incidence  
NOTE Confidence: 0.903506407857143  
00:05:04.490 --> 00:05:08.082 increase in HCC in the US from 1990  
NOTE Confidence: 0.903506407857143  
00:05:08.082 --> 00:05:11.599 to 2020 at a threefold increase.  
NOTE Confidence: 0.903506407857143  
00:05:11.600 --> 00:05:13.160 A lot of that was due to hepatitis  
NOTE Confidence: 0.903506407857143  
00:05:13.160 --> 00:05:14.783 C but the issue is that even  
NOTE Confidence: 0.903506407857143  
00:05:14.783 --> 00:05:16.276 though things are kind of steadying  
NOTE Confidence: 0.903506407857143  
00:05:16.276 --> 00:05:17.890 from hepatitis C and our ability  
NOTE Confidence: 0.903506407857143

00:05:17.890 --> 00:05:19.864 to treat and cure hepatitis C,  
NOTE Confidence: 0.903506407857143

00:05:19.864 --> 00:05:21.804 the fatty liver disease epidemic.  
NOTE Confidence: 0.903506407857143

00:05:21.810 --> 00:05:24.690 Sort of the next wave.  
NOTE Confidence: 0.903506407857143

00:05:24.690 --> 00:05:26.470 So who should get surveillance?  
NOTE Confidence: 0.903506407857143

00:05:26.470 --> 00:05:28.195 We recommend liver ultrasound and  
NOTE Confidence: 0.903506407857143

00:05:28.195 --> 00:05:30.774 AFP every six months in all patients  
NOTE Confidence: 0.903506407857143

00:05:30.774 --> 00:05:32.744 with cirrhosis and patients with  
NOTE Confidence: 0.903506407857143

00:05:32.744 --> 00:05:34.836 chronic hepatitis B and that's  
NOTE Confidence: 0.903506407857143

00:05:34.836 --> 00:05:36.108 regardless of cirrhosis.  
NOTE Confidence: 0.903506407857143

00:05:36.110 --> 00:05:38.259 And the way that we image people  
NOTE Confidence: 0.903506407857143

00:05:38.259 --> 00:05:39.851 is essentially with an ultrasound  
NOTE Confidence: 0.903506407857143

00:05:39.851 --> 00:05:41.669 they should have an an AFP.  
NOTE Confidence: 0.903506407857143

00:05:41.670 --> 00:05:43.630 But if they have an elevated AFP even  
NOTE Confidence: 0.903506407857143

00:05:43.630 --> 00:05:45.381 if they're ultrasound shows nothing or  
NOTE Confidence: 0.903506407857143

00:05:45.381 --> 00:05:47.810 if they have something focal on ultrasound,  
NOTE Confidence: 0.903506407857143

00:05:47.810 --> 00:05:50.816 we then go to dynamic contrast

NOTE Confidence: 0.903506407857143  
00:05:50.816 --> 00:05:53.839 enhanced imaging with a CT or MRI.  
NOTE Confidence: 0.903506407857143  
00:05:53.840 --> 00:05:55.674 But there are some Gray areas here,  
NOTE Confidence: 0.903506407857143  
00:05:55.680 --> 00:05:56.014 sorry,  
NOTE Confidence: 0.903506407857143  
00:05:56.014 --> 00:05:58.352 this didn't convey well the first line  
NOTE Confidence: 0.903506407857143  
00:05:58.352 --> 00:06:00.907 of that says hepatitis C with a cure,  
NOTE Confidence: 0.903506407857143  
00:06:00.910 --> 00:06:02.389 but without pre-existing  
NOTE Confidence: 0.903506407857143  
00:06:02.389 --> 00:06:04.854 cirrhosis prior to their cure,  
NOTE Confidence: 0.903506407857143  
00:06:04.860 --> 00:06:06.510 non-alcoholic fatty liver  
NOTE Confidence: 0.903506407857143  
00:06:06.510 --> 00:06:08.160 disease without cirrhosis.  
NOTE Confidence: 0.903506407857143  
00:06:08.160 --> 00:06:10.274 So these are folks who we really  
NOTE Confidence: 0.903506407857143  
00:06:10.274 --> 00:06:11.460 don't have biomarkers for.  
NOTE Confidence: 0.903506407857143  
00:06:11.460 --> 00:06:13.152 They don't fall into the cirrhosis  
NOTE Confidence: 0.903506407857143  
00:06:13.152 --> 00:06:14.820 category and many of them are  
NOTE Confidence: 0.903506407857143  
00:06:14.820 --> 00:06:17.105 being diagnosed with HC and they  
NOTE Confidence: 0.903506407857143  
00:06:17.105 --> 00:06:19.717 shouldn't have and aren't in a  
NOTE Confidence: 0.903506407857143

00:06:19.717 --> 00:06:22.137 screening or or surveillance program.  
NOTE Confidence: 0.903506407857143

00:06:22.140 --> 00:06:23.950 We know that liver cancer  
NOTE Confidence: 0.903506407857143

00:06:23.950 --> 00:06:25.036 surveillance saves lives.  
NOTE Confidence: 0.903506407857143

00:06:25.040 --> 00:06:26.750 I'm going to actually use the  
NOTE Confidence: 0.903506407857143

00:06:26.750 --> 00:06:27.890 term screening and surveillance  
NOTE Confidence: 0.903506407857143

00:06:27.942 --> 00:06:29.298 kind of interchangeably here,  
NOTE Confidence: 0.903506407857143

00:06:29.300 --> 00:06:30.392 understanding that we're looking  
NOTE Confidence: 0.903506407857143

00:06:30.392 --> 00:06:31.757 at an at risk population.  
NOTE Confidence: 0.903506407857143

00:06:31.760 --> 00:06:33.320 Those are people with cirrhosis.  
NOTE Confidence: 0.903506407857143

00:06:33.320 --> 00:06:34.348 So it's really surveillance.  
NOTE Confidence: 0.903506407857143

00:06:34.348 --> 00:06:36.521 But I think a lot of people are  
NOTE Confidence: 0.903506407857143

00:06:36.521 --> 00:06:37.946 used to the term screening,  
NOTE Confidence: 0.903506407857143

00:06:37.950 --> 00:06:39.305 meaning that they don't have  
NOTE Confidence: 0.903506407857143

00:06:39.305 --> 00:06:40.118 a pre-existing cancer.  
NOTE Confidence: 0.903506407857143

00:06:40.120 --> 00:06:42.757 And so you're going to screen for a cancer.  
NOTE Confidence: 0.903506407857143

00:06:42.760 --> 00:06:44.188 Just know that when it comes

NOTE Confidence: 0.903506407857143

00:06:44.188 --> 00:06:45.731 time to discuss the trial that

NOTE Confidence: 0.903506407857143

00:06:45.731 --> 00:06:47.076 I'm going to be discussing,

NOTE Confidence: 0.903506407857143

00:06:47.080 --> 00:06:48.592 we have to call it screening because

NOTE Confidence: 0.903506407857143

00:06:48.592 --> 00:06:50.138 that's just what they made us call it.

NOTE Confidence: 0.903506407857143

00:06:50.140 --> 00:06:52.464 But surveillance is really the proper term.

NOTE Confidence: 0.903506407857143

00:06:52.470 --> 00:06:53.640 So this is a nice,

NOTE Confidence: 0.903506407857143

00:06:53.640 --> 00:06:56.048 nice graphic of a big meta analysis

NOTE Confidence: 0.903506407857143

00:06:56.048 --> 00:06:58.060 that looked at almost 150,000

NOTE Confidence: 0.903506407857143

00:06:58.060 --> 00:07:01.000 patients and showed that really the

NOTE Confidence: 0.903506407857143

00:07:01.000 --> 00:07:03.489 benefits of surveillance are manifold.

NOTE Confidence: 0.903506407857143

00:07:03.490 --> 00:07:06.190 So we can detect cancer early,

NOTE Confidence: 0.903506407857143

00:07:06.190 --> 00:07:08.620 we can offer curative therapy and

NOTE Confidence: 0.903506407857143

00:07:08.620 --> 00:07:10.970 we can improve overall survival.

NOTE Confidence: 0.903506407857143

00:07:10.970 --> 00:07:12.622 There are some sort of data free

NOTE Confidence: 0.903506407857143

00:07:12.622 --> 00:07:14.446 zones here in terms of the harms

NOTE Confidence: 0.903506407857143

00:07:14.446 --> 00:07:16.042 of screening and these are things  
NOTE Confidence: 0.903506407857143

00:07:16.102 --> 00:07:17.964 that need to be studied in this  
NOTE Confidence: 0.903506407857143

00:07:17.964 --> 00:07:19.340 population and those harms are  
NOTE Confidence: 0.903506407857143

00:07:19.340 --> 00:07:20.765 many different types of harms,  
NOTE Confidence: 0.903506407857143

00:07:20.770 --> 00:07:23.518 financial, physical, etcetera.  
NOTE Confidence: 0.903506407857143

00:07:23.520 --> 00:07:25.720 So surveillance is advised by  
NOTE Confidence: 0.903506407857143

00:07:25.720 --> 00:07:28.400 all GI liver societies and NCCN,  
NOTE Confidence: 0.903506407857143

00:07:28.400 --> 00:07:30.566 but ASCO and the preventative Services  
NOTE Confidence: 0.903506407857143

00:07:30.566 --> 00:07:32.399 Task Force don't advise surveillance  
NOTE Confidence: 0.903506407857143

00:07:32.399 --> 00:07:35.039 and until there is a mandate for this,  
NOTE Confidence: 0.903506407857143

00:07:35.040 --> 00:07:37.098 it's not going to be taken up  
NOTE Confidence: 0.903506407857143

00:07:37.098 --> 00:07:38.761 widely by primary care providers  
NOTE Confidence: 0.903506407857143

00:07:38.761 --> 00:07:40.915 and this remains a major issue.  
NOTE Confidence: 0.903506407857143

00:07:40.920 --> 00:07:42.900 So surveillance rates are poor.  
NOTE Confidence: 0.903506407857143

00:07:42.900 --> 00:07:44.736 So this is actually a private  
NOTE Confidence: 0.903506407857143

00:07:44.736 --> 00:07:45.960 sector study that looked

NOTE Confidence: 0.844235941578947  
00:07:46.018 --> 00:07:47.830 at a cohort of hepatitis  
NOTE Confidence: 0.844235941578947  
00:07:47.830 --> 00:07:48.736 C cirrhosis patients.  
NOTE Confidence: 0.844235941578947  
00:07:48.740 --> 00:07:51.412 So they really should have been in a  
NOTE Confidence: 0.844235941578947  
00:07:51.412 --> 00:07:53.096 surveillance program and only about  
NOTE Confidence: 0.844235941578947  
00:07:53.096 --> 00:07:55.010 1/4 we're getting every six month.  
NOTE Confidence: 0.844235941578947  
00:07:55.010 --> 00:07:57.440 Ultrasound. So this is pretty abysmal.  
NOTE Confidence: 0.844235941578947  
00:07:57.440 --> 00:07:59.337 I mean, if you look at sort  
NOTE Confidence: 0.844235941578947  
00:07:59.337 --> 00:08:00.540 of longer surveillance rates,  
NOTE Confidence: 0.844235941578947  
00:08:00.540 --> 00:08:02.108 maybe every year somebody's  
NOTE Confidence: 0.844235941578947  
00:08:02.108 --> 00:08:03.676 remembering to do this,  
NOTE Confidence: 0.844235941578947  
00:08:03.680 --> 00:08:06.200 but it's more haphazard than  
NOTE Confidence: 0.844235941578947  
00:08:06.200 --> 00:08:08.216 actually being done regularly.  
NOTE Confidence: 0.844235941578947  
00:08:08.220 --> 00:08:10.620 Now VA data looks a little bit better.  
NOTE Confidence: 0.844235941578947  
00:08:10.620 --> 00:08:13.020 We're at about 44% and we do have  
NOTE Confidence: 0.844235941578947  
00:08:13.020 --> 00:08:15.963 a lot of different ways to get our  
NOTE Confidence: 0.844235941578947

00:08:15.963 --> 00:08:18.939 primary care docs to order ultrasounds.  
NOTE Confidence: 0.844235941578947

00:08:18.940 --> 00:08:20.830 But I think what's really important is  
NOTE Confidence: 0.844235941578947

00:08:20.830 --> 00:08:23.343 if you compare this to places in Europe  
NOTE Confidence: 0.844235941578947

00:08:23.343 --> 00:08:24.944 where surveillance rates approach 65%,  
NOTE Confidence: 0.844235941578947

00:08:24.944 --> 00:08:27.216 for example in the UK or in Japan  
NOTE Confidence: 0.844235941578947

00:08:27.216 --> 00:08:28.967 where there is high as 75%,  
NOTE Confidence: 0.844235941578947

00:08:28.967 --> 00:08:29.681 we're really,  
NOTE Confidence: 0.844235941578947

00:08:29.681 --> 00:08:33.220 we have a long way to move this needle.  
NOTE Confidence: 0.844235941578947

00:08:33.220 --> 00:08:34.696 And we really only see the  
NOTE Confidence: 0.844235941578947

00:08:34.696 --> 00:08:35.680 tip of the iceberg.  
NOTE Confidence: 0.844235941578947

00:08:35.680 --> 00:08:38.360 So in addition to low uptake of surveillance,  
NOTE Confidence: 0.844235941578947

00:08:38.360 --> 00:08:39.990 many patients are unaware of  
NOTE Confidence: 0.844235941578947

00:08:39.990 --> 00:08:41.620 their risk of developing HCC.  
NOTE Confidence: 0.844235941578947

00:08:41.620 --> 00:08:43.628 And that's due to the silent nature of  
NOTE Confidence: 0.844235941578947

00:08:43.628 --> 00:08:45.515 cirrhosis and the lack of awareness of  
NOTE Confidence: 0.844235941578947

00:08:45.515 --> 00:08:47.380 the disease among primary care providers.

NOTE Confidence: 0.844235941578947  
00:08:47.380 --> 00:08:49.240 And primary care providers now are  
NOTE Confidence: 0.844235941578947  
00:08:49.240 --> 00:08:51.152 really burdened by so many things  
NOTE Confidence: 0.844235941578947  
00:08:51.152 --> 00:08:53.287 they have to think about that liver  
NOTE Confidence: 0.844235941578947  
00:08:53.287 --> 00:08:55.088 disease is pretty low on the list.  
NOTE Confidence: 0.844235941578947  
00:08:55.090 --> 00:08:56.812 Now we know that linkage to liver  
NOTE Confidence: 0.844235941578947  
00:08:56.812 --> 00:08:58.436 cancer care starts with identifying  
NOTE Confidence: 0.844235941578947  
00:08:58.436 --> 00:09:00.108 cirrhosis and starting surveillance.  
NOTE Confidence: 0.844235941578947  
00:09:00.110 --> 00:09:00.796 But again,  
NOTE Confidence: 0.844235941578947  
00:09:00.796 --> 00:09:02.511 primary care providers desperately need  
NOTE Confidence: 0.844235941578947  
00:09:02.511 --> 00:09:04.996 to be educated to even suspect cirrhosis  
NOTE Confidence: 0.844235941578947  
00:09:04.996 --> 00:09:07.090 and surveillance really needs a mandate.  
NOTE Confidence: 0.844235941578947  
00:09:07.090 --> 00:09:08.728 I don't think this is going to  
NOTE Confidence: 0.844235941578947  
00:09:08.728 --> 00:09:10.585 be done until we actually prove  
NOTE Confidence: 0.844235941578947  
00:09:10.585 --> 00:09:12.045 that surveillance saves lives,  
NOTE Confidence: 0.844235941578947  
00:09:12.050 --> 00:09:13.916 and that probably has to be  
NOTE Confidence: 0.844235941578947

00:09:13.916 --> 00:09:15.620 done in a randomized trial.  
NOTE Confidence: 0.844235941578947

00:09:15.620 --> 00:09:17.601 So at risk populations that I talked  
NOTE Confidence: 0.844235941578947

00:09:17.601 --> 00:09:19.533 about before are changing with the  
NOTE Confidence: 0.844235941578947

00:09:19.533 --> 00:09:21.238 Natural History of liver disease.  
NOTE Confidence: 0.844235941578947

00:09:21.240 --> 00:09:22.552 So in the US,  
NOTE Confidence: 0.844235941578947

00:09:22.552 --> 00:09:24.192 we are widely treating hepatitis  
NOTE Confidence: 0.844235941578947

00:09:24.192 --> 00:09:26.600 CI would say in the VA we've  
NOTE Confidence: 0.844235941578947

00:09:26.600 --> 00:09:29.475 treated almost 75% to 80% of our  
NOTE Confidence: 0.844235941578947

00:09:29.475 --> 00:09:31.680 patients with hepatitis C Some  
NOTE Confidence: 0.844235941578947

00:09:31.680 --> 00:09:33.600 160,000 veterans have been treated.  
NOTE Confidence: 0.844235941578947

00:09:33.600 --> 00:09:35.805 And so this actually gives us a  
NOTE Confidence: 0.844235941578947

00:09:35.805 --> 00:09:37.943 unique group in which to study  
NOTE Confidence: 0.844235941578947

00:09:37.943 --> 00:09:39.818 post SVR sustained viral response  
NOTE Confidence: 0.844235941578947

00:09:39.818 --> 00:09:42.540 risk of HCC and we've seen that  
NOTE Confidence: 0.844235941578947

00:09:42.540 --> 00:09:44.060 risk go down significantly,  
NOTE Confidence: 0.844235941578947

00:09:44.060 --> 00:09:45.472 however, if there's significant.

NOTE Confidence: 0.844235941578947  
00:09:45.472 --> 00:09:47.237 Fibrosis stage three to four,  
NOTE Confidence: 0.844235941578947  
00:09:47.240 --> 00:09:48.914 they're still at pretty high risk  
NOTE Confidence: 0.844235941578947  
00:09:48.914 --> 00:09:50.860 of developing HCC in their lifetime,  
NOTE Confidence: 0.844235941578947  
00:09:50.860 --> 00:09:52.680 but we are not seeing that it's  
NOTE Confidence: 0.844235941578947  
00:09:52.680 --> 00:09:54.292 cost effective to do ultrasound  
NOTE Confidence: 0.844235941578947  
00:09:54.292 --> 00:09:55.848 in patients without cirrhosis.  
NOTE Confidence: 0.844235941578947  
00:09:55.850 --> 00:09:57.022 So the question is,  
NOTE Confidence: 0.844235941578947  
00:09:57.022 --> 00:09:58.487 are there other biomarkers we  
NOTE Confidence: 0.844235941578947  
00:09:58.487 --> 00:09:59.578 could be looking at?  
NOTE Confidence: 0.844235941578947  
00:09:59.580 --> 00:10:01.140 Noncirrhotic Naphill DI think is  
NOTE Confidence: 0.844235941578947  
00:10:01.140 --> 00:10:03.403 keeping us all up at night because  
NOTE Confidence: 0.844235941578947  
00:10:03.403 --> 00:10:05.629 up to 1/3 of fatty liver disease  
NOTE Confidence: 0.844235941578947  
00:10:05.629 --> 00:10:07.634 related HCC occurs in the absence  
NOTE Confidence: 0.844235941578947  
00:10:07.634 --> 00:10:09.254 of cirrhosis and these people  
NOTE Confidence: 0.844235941578947  
00:10:09.260 --> 00:10:10.728 are usually diagnosed late.  
NOTE Confidence: 0.844235941578947

00:10:10.728 --> 00:10:13.879 But if you think about the 70 million  
NOTE Confidence: 0.844235941578947

00:10:13.879 --> 00:10:16.064 Americans who probably have NAFLD.  
NOTE Confidence: 0.844235941578947

00:10:16.070 --> 00:10:17.810 There it's really not cost effective  
NOTE Confidence: 0.844235941578947

00:10:17.810 --> 00:10:19.469 to order an ultrasound for them.  
NOTE Confidence: 0.844235941578947

00:10:19.470 --> 00:10:21.801 So again we need biomarkers and imaging  
NOTE Confidence: 0.844235941578947

00:10:21.801 --> 00:10:24.450 really is, is not the way to go.  
NOTE Confidence: 0.844235941578947

00:10:24.450 --> 00:10:27.036 So we're looking at risk stratification  
NOTE Confidence: 0.844235941578947

00:10:27.036 --> 00:10:29.677 tools to identify those at highest  
NOTE Confidence: 0.844235941578947

00:10:29.677 --> 00:10:31.797 risk and then surveillance now  
NOTE Confidence: 0.844235941578947

00:10:31.797 --> 00:10:33.069 in clinical practice  
NOTE Confidence: 0.876303329285714

00:10:33.140 --> 00:10:35.324 is done on a case by case basis.  
NOTE Confidence: 0.876303329285714

00:10:35.330 --> 00:10:37.486 So this leads to the next problem  
NOTE Confidence: 0.876303329285714

00:10:37.486 --> 00:10:39.928 which is that HTC is diagnosed late.  
NOTE Confidence: 0.876303329285714

00:10:39.930 --> 00:10:43.566 So this is SEER data from 2012 to 2018  
NOTE Confidence: 0.876303329285714

00:10:43.566 --> 00:10:46.130 which shows that you know really in  
NOTE Confidence: 0.876303329285714

00:10:46.130 --> 00:10:47.840 the majority of cases it's diagnosed

NOTE Confidence: 0.876303329285714

00:10:47.900 --> 00:10:49.615 late with either regional lymph

NOTE Confidence: 0.876303329285714

00:10:49.615 --> 00:10:51.330 node spread or distant metastases.

NOTE Confidence: 0.876303329285714

00:10:51.330 --> 00:10:53.904 And we know that when HTC is diagnosed late,

NOTE Confidence: 0.876303329285714

00:10:53.910 --> 00:10:55.353 survival goes down.

NOTE Confidence: 0.876303329285714

00:10:55.353 --> 00:10:57.758 So five year relative survival

NOTE Confidence: 0.876303329285714

00:10:57.758 --> 00:10:59.864 and localized disease is 36.1%

NOTE Confidence: 0.876303329285714

00:10:59.864 --> 00:11:01.748 much better than it's ever been.

NOTE Confidence: 0.876303329285714

00:11:01.750 --> 00:11:03.305 But overall five year relative

NOTE Confidence: 0.876303329285714

00:11:03.305 --> 00:11:04.811 survival is about 21. Percent.

NOTE Confidence: 0.876303329285714

00:11:04.811 --> 00:11:06.377 We've moved the needle a little.

NOTE Confidence: 0.876303329285714

00:11:06.380 --> 00:11:10.952 It was about 18% in the last big sear.

NOTE Confidence: 0.876303329285714

00:11:10.960 --> 00:11:13.100 Cohort that they looked at.

NOTE Confidence: 0.876303329285714

00:11:13.100 --> 00:11:15.554 So how do we identify opportunities

NOTE Confidence: 0.876303329285714

00:11:15.554 --> 00:11:17.860 for directed education and outreach?

NOTE Confidence: 0.876303329285714

00:11:17.860 --> 00:11:19.990 This is work that's essentially a

NOTE Confidence: 0.876303329285714

00:11:19.990 --> 00:11:22.489 it's a mentorship of Doctor Strauss  
NOTE Confidence: 0.876303329285714

00:11:22.489 --> 00:11:24.505 Tabasco with Doctor Mezzacappa,  
NOTE Confidence: 0.876303329285714

00:11:24.510 --> 00:11:25.966 one of our fellows.  
NOTE Confidence: 0.876303329285714

00:11:25.966 --> 00:11:28.640 I'm looking at tumor registry and US  
NOTE Confidence: 0.876303329285714

00:11:28.640 --> 00:11:31.154 Census data specific to Connecticut and  
NOTE Confidence: 0.876303329285714

00:11:31.154 --> 00:11:33.719 we're working with the Department of.  
NOTE Confidence: 0.876303329285714

00:11:33.720 --> 00:11:35.472 Public health in Connecticut.  
NOTE Confidence: 0.876303329285714

00:11:35.472 --> 00:11:38.100 So this is geolocalization or hotspotting.  
NOTE Confidence: 0.876303329285714

00:11:38.100 --> 00:11:40.018 And this approach we took to really  
NOTE Confidence: 0.876303329285714

00:11:40.018 --> 00:11:42.210 kind of see where our case is most  
NOTE Confidence: 0.876303329285714

00:11:42.210 --> 00:11:44.165 dense in the state and then what  
NOTE Confidence: 0.876303329285714

00:11:44.165 --> 00:11:46.202 are some of the associations to the  
NOTE Confidence: 0.876303329285714

00:11:46.202 --> 00:11:48.820 case rate and the stage diagnosis.  
NOTE Confidence: 0.876303329285714

00:11:48.820 --> 00:11:49.526 And interestingly,  
NOTE Confidence: 0.876303329285714

00:11:49.526 --> 00:11:52.350 we found not only this wide variation in  
NOTE Confidence: 0.876303329285714

00:11:52.414 --> 00:11:54.808 cumulative incidence of HCC by ZIP code,

NOTE Confidence: 0.876303329285714  
00:11:54.810 --> 00:11:56.358 but also strong associations  
NOTE Confidence: 0.876303329285714  
00:11:56.358 --> 00:11:57.519 between Community level,  
NOTE Confidence: 0.876303329285714  
00:11:57.520 --> 00:11:59.840 poverty and education and  
NOTE Confidence: 0.876303329285714  
00:11:59.840 --> 00:12:02.160 the HTC case density.  
NOTE Confidence: 0.876303329285714  
00:12:02.160 --> 00:12:03.648 So really you could do this  
NOTE Confidence: 0.876303329285714  
00:12:03.648 --> 00:12:04.640 anywhere in the country.  
NOTE Confidence: 0.876303329285714  
00:12:04.640 --> 00:12:06.125 That I've taken you kind  
NOTE Confidence: 0.876303329285714  
00:12:06.125 --> 00:12:07.610 of from global to local,  
NOTE Confidence: 0.876303329285714  
00:12:07.610 --> 00:12:09.080 and I'm sure that Doctor Shaw,  
NOTE Confidence: 0.876303329285714  
00:12:09.080 --> 00:12:11.300 Sebasco and Doctor Mezzacappa will  
NOTE Confidence: 0.876303329285714  
00:12:11.300 --> 00:12:13.520 think about interventions in the  
NOTE Confidence: 0.876303329285714  
00:12:13.587 --> 00:12:15.872 community that we can actually  
NOTE Confidence: 0.876303329285714  
00:12:15.872 --> 00:12:18.157 improve our outreach and surveillance.  
NOTE Confidence: 0.876303329285714  
00:12:18.160 --> 00:12:20.272 So getting back to this conundrum  
NOTE Confidence: 0.876303329285714  
00:12:20.272 --> 00:12:20.976 with ultrasound,  
NOTE Confidence: 0.876303329285714

00:12:20.980 --> 00:12:23.396 so ultrasound is what we use in the  
NOTE Confidence: 0.876303329285714

00:12:23.396 --> 00:12:25.358 present state for HCC surveillance,  
NOTE Confidence: 0.876303329285714

00:12:25.360 --> 00:12:27.159 but we know that it lacks sensitivity  
NOTE Confidence: 0.876303329285714

00:12:27.159 --> 00:12:28.522 for early stage detection and  
NOTE Confidence: 0.876303329285714

00:12:28.522 --> 00:12:30.154 this has always been a problem.  
NOTE Confidence: 0.876303329285714

00:12:30.160 --> 00:12:32.064 And it's also a problem of geography.  
NOTE Confidence: 0.876303329285714

00:12:32.070 --> 00:12:32.960 In Europe,  
NOTE Confidence: 0.876303329285714

00:12:32.960 --> 00:12:34.740 usually physicians do the  
NOTE Confidence: 0.876303329285714

00:12:34.740 --> 00:12:37.300 ultrasound in the States, text do.  
NOTE Confidence: 0.876303329285714

00:12:37.300 --> 00:12:39.250 The ultrasound body habitus is  
NOTE Confidence: 0.876303329285714

00:12:39.250 --> 00:12:40.420 very different geographically.  
NOTE Confidence: 0.876303329285714

00:12:40.420 --> 00:12:42.496 We have pretty large body habitus.  
NOTE Confidence: 0.876303329285714

00:12:42.500 --> 00:12:44.288 And generally what you can see  
NOTE Confidence: 0.876303329285714

00:12:44.288 --> 00:12:46.189 here is that while ultrasound may  
NOTE Confidence: 0.876303329285714

00:12:46.189 --> 00:12:48.457 be OK for diagnosis at any stage.  
NOTE Confidence: 0.876303329285714

00:12:48.460 --> 00:12:50.190 It's really pretty poor for

NOTE Confidence: 0.876303329285714  
00:12:50.190 --> 00:12:51.574 diagnosis at early stage.  
NOTE Confidence: 0.876303329285714  
00:12:51.580 --> 00:12:53.380 And no matter what stage you're looking at,  
NOTE Confidence: 0.876303329285714  
00:12:53.380 --> 00:12:55.420 MRI really is the gold standard.  
NOTE Confidence: 0.876303329285714  
00:12:55.420 --> 00:12:57.016 The question is can you use  
NOTE Confidence: 0.876303329285714  
00:12:57.016 --> 00:12:58.679 something like an MRI to screen?  
NOTE Confidence: 0.876303329285714  
00:12:58.680 --> 00:13:01.518 And that's sort of a question  
NOTE Confidence: 0.876303329285714  
00:13:01.518 --> 00:13:02.937 that begs asking,  
NOTE Confidence: 0.876303329285714  
00:13:02.940 --> 00:13:05.676 so can we move the needle on early  
NOTE Confidence: 0.876303329285714  
00:13:05.676 --> 00:13:08.753 detection so we can do ultrasound, CT or Mr.  
NOTE Confidence: 0.876303329285714  
00:13:08.753 --> 00:13:10.319 These are the pros and cons.  
NOTE Confidence: 0.876303329285714  
00:13:10.320 --> 00:13:11.096 You know,  
NOTE Confidence: 0.876303329285714  
00:13:11.096 --> 00:13:13.812 clearly we can look at things like  
NOTE Confidence: 0.876303329285714  
00:13:13.820 --> 00:13:16.080 developments and other cancers.  
NOTE Confidence: 0.876303329285714  
00:13:16.080 --> 00:13:18.642 So for example in Europe.  
NOTE Confidence: 0.876303329285714  
00:13:18.642 --> 00:13:20.797 They use contrast enhanced ultrasound.  
NOTE Confidence: 0.876303329285714

00:13:20.800 --> 00:13:22.900 I don't think that's ever going to  
NOTE Confidence: 0.876303329285714

00:13:22.900 --> 00:13:25.454 really take off here in the states for  
NOTE Confidence: 0.876303329285714

00:13:25.454 --> 00:13:27.418 many reasons like lung cancer where  
NOTE Confidence: 0.876303329285714

00:13:27.418 --> 00:13:30.440 you can use low dose chest CT for example,  
NOTE Confidence: 0.876303329285714

00:13:30.440 --> 00:13:32.799 could you do low dose liver CT?  
NOTE Confidence: 0.874609802

00:13:32.800 --> 00:13:35.376 Probably not because of the kind of  
NOTE Confidence: 0.874609802

00:13:35.376 --> 00:13:38.217 resolution that you need to see liver cancer.  
NOTE Confidence: 0.874609802

00:13:38.220 --> 00:13:40.488 But abbreviated MRI with shorter imaging  
NOTE Confidence: 0.874609802

00:13:40.488 --> 00:13:42.680 times actually may be promising.  
NOTE Confidence: 0.874609802

00:13:42.680 --> 00:13:44.395 And when I say shorter imaging times,  
NOTE Confidence: 0.874609802

00:13:44.400 --> 00:13:45.642 right now it takes about 45  
NOTE Confidence: 0.874609802

00:13:45.642 --> 00:13:46.999 minutes to do a liver MRI.  
NOTE Confidence: 0.874609802

00:13:47.000 --> 00:13:48.278 With abbreviated MRI you can get  
NOTE Confidence: 0.874609802

00:13:48.278 --> 00:13:49.799 a person on and off the table.  
NOTE Confidence: 0.874609802

00:13:49.800 --> 00:13:51.600 In about 10-15 minutes.  
NOTE Confidence: 0.874609802

00:13:51.600 --> 00:13:55.600 So this is something that we want to study.

NOTE Confidence: 0.874609802

00:13:55.600 --> 00:13:58.057 And I think the VA is really the perfect

NOTE Confidence: 0.874609802

00:13:58.057 --> 00:14:00.640 and probably the only place to study it.

NOTE Confidence: 0.874609802

00:14:00.640 --> 00:14:03.146 So cirrhosis is highly prevalent and MRI

NOTE Confidence: 0.874609802

00:14:03.146 --> 00:14:05.458 is really readily available at the VA

NOTE Confidence: 0.874609802

00:14:05.460 --> 00:14:08.156 and cirrhosis is quite common in the VA.

NOTE Confidence: 0.874609802

00:14:08.160 --> 00:14:09.780 The reasons for that is we have a 5

NOTE Confidence: 0.874609802

00:14:09.780 --> 00:14:11.458 fold higher incidence of hepatitis C,

NOTE Confidence: 0.874609802

00:14:11.460 --> 00:14:13.416 which again is mostly now cured.

NOTE Confidence: 0.874609802

00:14:13.420 --> 00:14:15.346 We have very high prevalence of

NOTE Confidence: 0.874609802

00:14:15.346 --> 00:14:17.604 alcohol use disorder and very high

NOTE Confidence: 0.874609802

00:14:17.604 --> 00:14:19.436 prevalence of metabolic comorbidities.

NOTE Confidence: 0.874609802

00:14:19.440 --> 00:14:21.316 In addition, we have an aging population.

NOTE Confidence: 0.874609802

00:14:21.320 --> 00:14:22.060 And as you all know,

NOTE Confidence: 0.874609802

00:14:22.060 --> 00:14:24.496 cancer is a disease of aging.

NOTE Confidence: 0.874609802

00:14:24.500 --> 00:14:27.868 So it's really the right mix of patients.

NOTE Confidence: 0.874609802

00:14:27.870 --> 00:14:29.730 We are the largest healthcare provider

NOTE Confidence: 0.874609802

00:14:29.730 --> 00:14:31.569 for liver disease in the nation

NOTE Confidence: 0.874609802

00:14:31.569 --> 00:14:33.480 and we're a closed system that can

NOTE Confidence: 0.874609802

00:14:33.480 --> 00:14:35.069 really look at our own metrics.

NOTE Confidence: 0.874609802

00:14:35.070 --> 00:14:36.820 So our electronic health record

NOTE Confidence: 0.874609802

00:14:36.820 --> 00:14:38.958 has been curated for research by

NOTE Confidence: 0.874609802

00:14:38.958 --> 00:14:40.568 the corporate data warehouse where

NOTE Confidence: 0.874609802

00:14:40.568 --> 00:14:42.490 we can really have wonderful,

NOTE Confidence: 0.874609802

00:14:42.490 --> 00:14:46.795 very rich data that spans 20 years.

NOTE Confidence: 0.874609802

00:14:46.800 --> 00:14:48.545 We also have operational sort

NOTE Confidence: 0.874609802

00:14:48.545 --> 00:14:50.680 of on the patient facing side,

NOTE Confidence: 0.874609802

00:14:50.680 --> 00:14:52.750 population health dashboards to identify

NOTE Confidence: 0.874609802

00:14:52.750 --> 00:14:54.820 patients in need of surveillance.

NOTE Confidence: 0.874609802

00:14:54.820 --> 00:14:57.076 We have clinical reminders that alert

NOTE Confidence: 0.874609802

00:14:57.076 --> 00:14:59.561 primary care providers to perform HC

NOTE Confidence: 0.874609802

00:14:59.561 --> 00:15:01.898 surveillance and we've made a lot of

NOTE Confidence: 0.874609802

00:15:01.898 --> 00:15:03.150 innovations with care coordination

NOTE Confidence: 0.874609802

00:15:03.205 --> 00:15:04.850 and navigation with online tracking

NOTE Confidence: 0.874609802

00:15:04.850 --> 00:15:07.199 tools that help us follow the patient

NOTE Confidence: 0.874609802

00:15:07.199 --> 00:15:08.814 through the continuum of care.

NOTE Confidence: 0.874609802

00:15:08.820 --> 00:15:09.466 And again,

NOTE Confidence: 0.874609802

00:15:09.466 --> 00:15:11.404 MRI is really readily available and

NOTE Confidence: 0.874609802

00:15:11.404 --> 00:15:13.382 we don't have to prior authorize

NOTE Confidence: 0.874609802

00:15:13.382 --> 00:15:14.646 anything in the VA.

NOTE Confidence: 0.874609802

00:15:14.650 --> 00:15:15.800 Not nice.

NOTE Confidence: 0.874609802

00:15:15.800 --> 00:15:21.590 So so we can do this study in the VA.

NOTE Confidence: 0.874609802

00:15:21.590 --> 00:15:23.949 So the question is will earlier detection

NOTE Confidence: 0.874609802

00:15:23.949 --> 00:15:25.692 with abbreviated MRI actually result

NOTE Confidence: 0.874609802

00:15:25.692 --> 00:15:27.714 in a cancer related mortality benefit

NOTE Confidence: 0.874609802

00:15:27.714 --> 00:15:29.965 and this is what we want to find out.

NOTE Confidence: 0.874609802

00:15:29.970 --> 00:15:32.091 So our study called the premium study

NOTE Confidence: 0.874609802

00:15:32.091 --> 00:15:34.739 which I'll get to is a VA cooperative  
NOTE Confidence: 0.874609802

00:15:34.739 --> 00:15:36.083 studies program funded study.  
NOTE Confidence: 0.874609802

00:15:36.090 --> 00:15:38.120 So the CSP actually funds very large  
NOTE Confidence: 0.874609802

00:15:38.120 --> 00:15:39.987 scale trials only when they're super  
NOTE Confidence: 0.874609802

00:15:39.987 --> 00:15:42.171 convinced that we're going to be asking  
NOTE Confidence: 0.874609802

00:15:42.227 --> 00:15:44.645 fundamental questions that could change pack.  
NOTE Confidence: 0.874609802

00:15:44.650 --> 00:15:47.212 Practice and they provide a dedicated  
NOTE Confidence: 0.874609802

00:15:47.212 --> 00:15:48.920 coordinating Center for handling  
NOTE Confidence: 0.874609802

00:15:48.987 --> 00:15:50.817 the trial across many centers.  
NOTE Confidence: 0.874609802

00:15:50.820 --> 00:15:53.123 And we actually designed a study with  
NOTE Confidence: 0.874609802

00:15:53.123 --> 00:15:56.639 a non screening arm which took a lot of  
NOTE Confidence: 0.874609802

00:15:56.639 --> 00:15:57.869 convincing because gastroenterologists  
NOTE Confidence: 0.874609802

00:15:57.869 --> 00:16:00.087 and hepatologists consider a non  
NOTE Confidence: 0.874609802

00:16:00.087 --> 00:16:02.049 screening arm unethical and actually  
NOTE Confidence: 0.874609802

00:16:02.049 --> 00:16:04.227 many other trials have tried this  
NOTE Confidence: 0.874609802

00:16:04.227 --> 00:16:06.619 in patients simply wouldn't enroll.

NOTE Confidence: 0.874609802

00:16:06.620 --> 00:16:09.749 So the other issue is that we

NOTE Confidence: 0.874609802

00:16:09.749 --> 00:16:12.383 really do think that ultrasound

NOTE Confidence: 0.874609802

00:16:12.383 --> 00:16:14.452 is at this point insensitive.

NOTE Confidence: 0.874609802

00:16:14.452 --> 00:16:15.924 Enough that it's actually

NOTE Confidence: 0.874609802

00:16:15.924 --> 00:16:17.679 not a bad comparator,

NOTE Confidence: 0.874609802

00:16:17.680 --> 00:16:21.070 since it's standard of care anyway.

NOTE Confidence: 0.874609802

00:16:21.070 --> 00:16:22.170 So this is the study.

NOTE Confidence: 0.874609802

00:16:22.170 --> 00:16:23.734 It's called preventing liver

NOTE Confidence: 0.874609802

00:16:23.734 --> 00:16:25.298 cancer mortality through imaging

NOTE Confidence: 0.874609802

00:16:25.298 --> 00:16:26.689 with ultrasound versus MRI.

NOTE Confidence: 0.874609802

00:16:26.690 --> 00:16:28.380 And it's a randomized controlled

NOTE Confidence: 0.874609802

00:16:28.380 --> 00:16:30.070 trial of standard of care

NOTE Confidence: 0.811957548

00:16:30.136 --> 00:16:31.560 ultrasound plus AFP versus

NOTE Confidence: 0.811957548

00:16:31.560 --> 00:16:33.696 abbreviated MRI plus AFP every six

NOTE Confidence: 0.811957548

00:16:33.756 --> 00:16:35.331 months in patients with cirrhosis

NOTE Confidence: 0.811957548

00:16:35.331 --> 00:16:37.602 who have a high risk of HCC.  
NOTE Confidence: 0.811957548

00:16:37.602 --> 00:16:39.492 And some might say, well, geez,  
NOTE Confidence: 0.811957548

00:16:39.492 --> 00:16:40.747 why are you starting there?  
NOTE Confidence: 0.811957548

00:16:40.750 --> 00:16:42.004 You know, there's so many people  
NOTE Confidence: 0.811957548

00:16:42.004 --> 00:16:43.530 who have so many variable risks,  
NOTE Confidence: 0.811957548

00:16:43.530 --> 00:16:44.910 why are you starting there?  
NOTE Confidence: 0.811957548

00:16:44.910 --> 00:16:47.220 And I think we have to start  
NOTE Confidence: 0.811957548

00:16:47.220 --> 00:16:48.634 here because surveillance even  
NOTE Confidence: 0.811957548

00:16:48.634 --> 00:16:50.419 in cirrhosis has poor uptight.  
NOTE Confidence: 0.811957548

00:16:50.420 --> 00:16:53.076 Poor uptake and a lot of debate still  
NOTE Confidence: 0.811957548

00:16:53.076 --> 00:16:55.717 around it outside of the liver world.  
NOTE Confidence: 0.811957548

00:16:55.720 --> 00:16:58.200 So I think this is the right population.  
NOTE Confidence: 0.811957548

00:16:58.200 --> 00:16:59.640 This is the abbreviated MRI protocol  
NOTE Confidence: 0.811957548

00:16:59.640 --> 00:17:01.379 if any of you are interested.  
NOTE Confidence: 0.811957548

00:17:01.380 --> 00:17:04.817 It really has all the sequences to  
NOTE Confidence: 0.811957548

00:17:04.817 --> 00:17:07.100 diagnose HCC and the room time as

NOTE Confidence: 0.811957548

00:17:07.100 --> 00:17:09.400 I said is about 10 to 15 minutes.

NOTE Confidence: 0.811957548

00:17:09.400 --> 00:17:11.325 So we're essentially taking a

NOTE Confidence: 0.811957548

00:17:11.325 --> 00:17:12.872 diagnostic exam, shortening it,

NOTE Confidence: 0.811957548

00:17:12.872 --> 00:17:14.802 still keeping the diagnostic sequences

NOTE Confidence: 0.811957548

00:17:14.802 --> 00:17:17.200 and using it as a screening exam.

NOTE Confidence: 0.811957548

00:17:17.200 --> 00:17:19.325 Our primary outcome is cumulative

NOTE Confidence: 0.811957548

00:17:19.325 --> 00:17:20.600 HTC related mortality.

NOTE Confidence: 0.811957548

00:17:20.600 --> 00:17:22.868 The study and which is your age

NOTE Confidence: 0.811957548

00:17:22.868 --> 00:17:24.582 for the surveillance portion and

NOTE Confidence: 0.811957548

00:17:24.582 --> 00:17:26.604 we're powered to detect a reduction

NOTE Confidence: 0.811957548

00:17:26.604 --> 00:17:28.969 in HCC related mortality of 35%.

NOTE Confidence: 0.811957548

00:17:28.969 --> 00:17:29.727 Of course,

NOTE Confidence: 0.811957548

00:17:29.727 --> 00:17:32.380 we're going to be following any incident

NOTE Confidence: 0.811957548

00:17:32.453 --> 00:17:35.297 HCC through the life of the study as well.

NOTE Confidence: 0.811957548

00:17:35.300 --> 00:17:36.908 So our study setting is 47

NOTE Confidence: 0.811957548

00:17:36.908 --> 00:17:38.416 VA medical centers with high  
NOTE Confidence: 0.811957548

00:17:38.416 --> 00:17:39.920 numbers of cirrhosis patients.  
NOTE Confidence: 0.811957548

00:17:39.920 --> 00:17:42.120 According to those population  
NOTE Confidence: 0.811957548

00:17:42.120 --> 00:17:43.220 health dashboards,  
NOTE Confidence: 0.811957548

00:17:43.220 --> 00:17:44.900 they have to have adequate  
NOTE Confidence: 0.811957548

00:17:44.900 --> 00:17:47.081 MRI capacity and access to a  
NOTE Confidence: 0.811957548

00:17:47.081 --> 00:17:48.813 multidisciplinary liver tumor board  
NOTE Confidence: 0.811957548

00:17:48.813 --> 00:17:50.258 for state-of-the-art treatment of HCC,  
NOTE Confidence: 0.811957548

00:17:50.258 --> 00:17:51.518 which is a tall order.  
NOTE Confidence: 0.811957548

00:17:51.520 --> 00:17:53.698 It's one thing to diagnose a bunch of HCC,  
NOTE Confidence: 0.811957548

00:17:53.700 --> 00:17:56.017 but if you're not treating it correctly,  
NOTE Confidence: 0.811957548

00:17:56.020 --> 00:17:57.736 that would really influence the study.  
NOTE Confidence: 0.811957548

00:17:57.740 --> 00:18:00.188 So every center has to agree that they  
NOTE Confidence: 0.811957548

00:18:00.188 --> 00:18:02.425 will send their patient to a tumor  
NOTE Confidence: 0.811957548

00:18:02.425 --> 00:18:05.010 board and that they have access to care.  
NOTE Confidence: 0.811957548

00:18:05.010 --> 00:18:07.906 The VA is very serious about trying to

NOTE Confidence: 0.811957548

00:18:07.906 --> 00:18:10.109 enroll veterans all over the country.

NOTE Confidence: 0.811957548

00:18:10.110 --> 00:18:12.420 So they have these network of dedicated

NOTE Confidence: 0.811957548

00:18:12.420 --> 00:18:14.097 enrollment sites that we're working

NOTE Confidence: 0.811957548

00:18:14.097 --> 00:18:16.288 with and giving priority to the study.

NOTE Confidence: 0.811957548

00:18:16.290 --> 00:18:18.688 Our total sample size is 4700 patients,

NOTE Confidence: 0.811957548

00:18:18.688 --> 00:18:20.781 2350 per arm and the duration is

NOTE Confidence: 0.811957548

00:18:20.781 --> 00:18:23.165 9 years and it's eight years in

NOTE Confidence: 0.811957548

00:18:23.165 --> 00:18:24.942 the surveillance and then nine

NOTE Confidence: 0.811957548

00:18:24.942 --> 00:18:26.410 years for data analytics.

NOTE Confidence: 0.811957548

00:18:26.410 --> 00:18:28.223 And what's interesting here is if you

NOTE Confidence: 0.811957548

00:18:28.223 --> 00:18:30.129 think about the burden to each center,

NOTE Confidence: 0.811957548

00:18:30.130 --> 00:18:32.671 we're basically asking them to enroll about

NOTE Confidence: 0.811957548

00:18:32.671 --> 00:18:35.139 100 patients over the enrollment period.

NOTE Confidence: 0.811957548

00:18:35.140 --> 00:18:37.276 Which is the first three years of the

NOTE Confidence: 0.811957548

00:18:37.276 --> 00:18:39.448 study and essentially they're going to

NOTE Confidence: 0.811957548

00:18:39.448 --> 00:18:41.806 be performing 100 extra abbreviated MRI.

NOTE Confidence: 0.811957548

00:18:41.810 --> 00:18:42.458 So you know,

NOTE Confidence: 0.811957548

00:18:42.458 --> 00:18:43.754 those people would have had an

NOTE Confidence: 0.811957548

00:18:43.754 --> 00:18:44.688 ultrasound every six months.

NOTE Confidence: 0.811957548

00:18:44.690 --> 00:18:46.410 They're getting an abbreviated MRI.

NOTE Confidence: 0.811957548

00:18:46.410 --> 00:18:47.730 It's not a huge ask.

NOTE Confidence: 0.811957548

00:18:47.730 --> 00:18:50.682 It's actually fairly tenable for a

NOTE Confidence: 0.811957548

00:18:50.682 --> 00:18:54.298 larger center that has a functioning MRI.

NOTE Confidence: 0.811957548

00:18:54.300 --> 00:18:55.390 So this is just the,

NOTE Confidence: 0.811957548

00:18:55.390 --> 00:18:57.231 what the study is going to look

NOTE Confidence: 0.811957548

00:18:57.231 --> 00:18:58.890 like in terms of enrollment is

NOTE Confidence: 0.811957548

00:18:58.890 --> 00:19:00.960 for the first three years and

NOTE Confidence: 0.811957548

00:19:00.960 --> 00:19:03.377 then everybody is you know in a

NOTE Confidence: 0.811957548

00:19:03.377 --> 00:19:04.709 surveillance pattern through year

NOTE Confidence: 0.811957548

00:19:04.709 --> 00:19:06.826 eight and then we analyze the data.

NOTE Confidence: 0.811957548

00:19:06.830 --> 00:19:09.190 And this is just a schematic of our

NOTE Confidence: 0.811957548

00:19:09.190 --> 00:19:11.206 hypothesis and the difference between

NOTE Confidence: 0.811957548

00:19:11.206 --> 00:19:13.026 abbreviated MRI and ultrasound.

NOTE Confidence: 0.811957548

00:19:13.030 --> 00:19:14.650 So we hope that we're going

NOTE Confidence: 0.811957548

00:19:14.650 --> 00:19:15.730 to detect cancer at

NOTE Confidence: 0.876957294166667

00:19:15.788 --> 00:19:18.638 earlier stages, offer more curative therapy,

NOTE Confidence: 0.876957294166667

00:19:18.638 --> 00:19:20.626 reduce HC related mortality

NOTE Confidence: 0.876957294166667

00:19:20.626 --> 00:19:22.730 and if this is true,

NOTE Confidence: 0.876957294166667

00:19:22.730 --> 00:19:26.384 then abbreviated MRI will be widely adopted,

NOTE Confidence: 0.876957294166667

00:19:26.390 --> 00:19:27.558 MRI's are becoming cheaper.

NOTE Confidence: 0.876957294166667

00:19:27.558 --> 00:19:30.477 So the hope is that this study will also

NOTE Confidence: 0.876957294166667

00:19:30.477 --> 00:19:31.957 dovetail with technological advances

NOTE Confidence: 0.876957294166667

00:19:31.957 --> 00:19:34.590 that make MRI within reach for patients.

NOTE Confidence: 0.876957294166667

00:19:34.590 --> 00:19:36.552 And again you can see that

NOTE Confidence: 0.876957294166667

00:19:36.552 --> 00:19:37.860 we're really hoping to.

NOTE Confidence: 0.876957294166667

00:19:37.860 --> 00:19:41.899 Capitalize on the sensitivity of of MRI.

NOTE Confidence: 0.876957294166667

00:19:41.900 --> 00:19:44.204 So we will have a large  
NOTE Confidence: 0.876957294166667

00:19:44.204 --> 00:19:45.740 bio and image repository.  
NOTE Confidence: 0.876957294166667

00:19:45.740 --> 00:19:47.174 So we're going to be collecting  
NOTE Confidence: 0.876957294166667

00:19:47.174 --> 00:19:48.673 blood every six months from patients  
NOTE Confidence: 0.876957294166667

00:19:48.673 --> 00:19:50.395 when they come in for their imaging.  
NOTE Confidence: 0.876957294166667

00:19:50.400 --> 00:19:52.792 That's going to be shipped to the A  
NOTE Confidence: 0.876957294166667

00:19:52.792 --> 00:19:54.239 central biorepository for processing.  
NOTE Confidence: 0.876957294166667

00:19:54.240 --> 00:19:56.430 We're collecting all the digital  
NOTE Confidence: 0.876957294166667

00:19:56.430 --> 00:19:58.620 files for ultrasound abbreviated MRI.  
NOTE Confidence: 0.876957294166667

00:19:58.620 --> 00:20:00.792 And so there are many possibilities  
NOTE Confidence: 0.876957294166667

00:20:00.792 --> 00:20:02.240 for collaboration on biomarkers,  
NOTE Confidence: 0.876957294166667

00:20:02.240 --> 00:20:03.452 both blood and imaging.  
NOTE Confidence: 0.876957294166667

00:20:03.452 --> 00:20:05.270 And imaging is actually very important.  
NOTE Confidence: 0.876957294166667

00:20:05.270 --> 00:20:07.094 There may be much that we learn from  
NOTE Confidence: 0.876957294166667

00:20:07.100 --> 00:20:08.416 MRI's that has nothing to do with.  
NOTE Confidence: 0.876957294166667

00:20:08.420 --> 00:20:11.024 Answer and the CSP is actually

NOTE Confidence: 0.876957294166667  
00:20:11.024 --> 00:20:13.333 really nice at encouraging spin-off  
NOTE Confidence: 0.876957294166667  
00:20:13.333 --> 00:20:15.808 studies and in collaborating with  
NOTE Confidence: 0.876957294166667  
00:20:15.808 --> 00:20:18.780 other centers like NIH for example.  
NOTE Confidence: 0.876957294166667  
00:20:18.780 --> 00:20:21.180 So I talked about a biorepository.  
NOTE Confidence: 0.876957294166667  
00:20:21.180 --> 00:20:23.804 I think one of the biggest questions that  
NOTE Confidence: 0.876957294166667  
00:20:23.804 --> 00:20:25.896 the reviewers had for this grant was,  
NOTE Confidence: 0.876957294166667  
00:20:25.900 --> 00:20:26.560 well, hey,  
NOTE Confidence: 0.876957294166667  
00:20:26.560 --> 00:20:28.210 what if something happens where  
NOTE Confidence: 0.876957294166667  
00:20:28.210 --> 00:20:30.160 you can just screen for HTC,  
NOTE Confidence: 0.876957294166667  
00:20:30.160 --> 00:20:30.670 you know,  
NOTE Confidence: 0.876957294166667  
00:20:30.670 --> 00:20:32.455 based on some blood test and I  
NOTE Confidence: 0.876957294166667  
00:20:32.455 --> 00:20:33.779 it is a real threat.  
NOTE Confidence: 0.876957294166667  
00:20:33.780 --> 00:20:35.334 I don't think it's necessarily going to  
NOTE Confidence: 0.876957294166667  
00:20:35.334 --> 00:20:37.117 come to pass in the life of the study,  
NOTE Confidence: 0.876957294166667  
00:20:37.120 --> 00:20:39.388 but it is something that we felt  
NOTE Confidence: 0.876957294166667

00:20:39.388 --> 00:20:41.135 that a biorepository would be  
NOTE Confidence: 0.876957294166667

00:20:41.135 --> 00:20:43.265 very useful to validate in a  
NOTE Confidence: 0.876957294166667

00:20:43.265 --> 00:20:44.710 pretty heterogeneous population.  
NOTE Confidence: 0.876957294166667

00:20:44.710 --> 00:20:46.160 And one can argue, well,  
NOTE Confidence: 0.876957294166667

00:20:46.160 --> 00:20:47.756 the VA how heterogeneous is it?  
NOTE Confidence: 0.876957294166667

00:20:47.760 --> 00:20:48.520 It's a bunch of.  
NOTE Confidence: 0.876957294166667

00:20:48.520 --> 00:20:50.150 Then, but the truth is,  
NOTE Confidence: 0.876957294166667

00:20:50.150 --> 00:20:52.678 is that it's actually quite heterogeneous  
NOTE Confidence: 0.876957294166667

00:20:52.678 --> 00:20:55.390 in terms of ethnicity and background.  
NOTE Confidence: 0.876957294166667

00:20:55.390 --> 00:20:57.350 So you can see here the present  
NOTE Confidence: 0.876957294166667

00:20:57.350 --> 00:20:58.738 state of biomarker development  
NOTE Confidence: 0.876957294166667

00:20:58.738 --> 00:21:00.706 development for early detection.  
NOTE Confidence: 0.876957294166667

00:21:00.710 --> 00:21:03.392 There are four FDA approved biomarkers  
NOTE Confidence: 0.876957294166667

00:21:03.392 --> 00:21:06.050 on this list here there's AFP,  
NOTE Confidence: 0.876957294166667

00:21:06.050 --> 00:21:06.990 AFP, L3,  
NOTE Confidence: 0.876957294166667

00:21:06.990 --> 00:21:09.990 DCP and GALAD and their DRN

NOTE Confidence: 0.876957294166667

00:21:09.990 --> 00:21:11.490 phase of validation.

NOTE Confidence: 0.876957294166667

00:21:11.490 --> 00:21:13.289 So really AFP is hit prime time.

NOTE Confidence: 0.876957294166667

00:21:13.290 --> 00:21:15.390 I don't think many of us use

NOTE Confidence: 0.876957294166667

00:21:15.390 --> 00:21:18.030 FPL 3 DCP or Gallatin practice,

NOTE Confidence: 0.876957294166667

00:21:18.030 --> 00:21:18.986 but you can see.

NOTE Confidence: 0.876957294166667

00:21:18.986 --> 00:21:20.420 As you go down this list,

NOTE Confidence: 0.876957294166667

00:21:20.420 --> 00:21:22.448 you're starting to have multiple different

NOTE Confidence: 0.876957294166667

00:21:22.448 --> 00:21:24.380 factors play into your algorithm.

NOTE Confidence: 0.876957294166667

00:21:24.380 --> 00:21:26.428 So you're you're never going to find a

NOTE Confidence: 0.876957294166667

00:21:26.428 --> 00:21:28.560 Holy Grail in HC of like 1 great protein,

NOTE Confidence: 0.876957294166667

00:21:28.560 --> 00:21:29.271 one great marker.

NOTE Confidence: 0.876957294166667

00:21:29.271 --> 00:21:30.930 It's always going to be a mix

NOTE Confidence: 0.876957294166667

00:21:30.988 --> 00:21:31.999 of different things,

NOTE Confidence: 0.876957294166667

00:21:32.000 --> 00:21:35.260 clinical you know proteins etcetera.

NOTE Confidence: 0.876957294166667

00:21:35.260 --> 00:21:37.936 So we're getting much more into

NOTE Confidence: 0.876957294166667

00:21:37.936 --> 00:21:40.423 sort of this algorithmic type  
NOTE Confidence: 0.876957294166667

00:21:40.423 --> 00:21:42.907 approach to biomarker development.  
NOTE Confidence: 0.876957294166667

00:21:42.910 --> 00:21:43.504 Liquid biopsy,  
NOTE Confidence: 0.876957294166667

00:21:43.504 --> 00:21:45.286 I think has been very encouraging.  
NOTE Confidence: 0.876957294166667

00:21:45.290 --> 00:21:46.436 In other cancers,  
NOTE Confidence: 0.876957294166667

00:21:46.436 --> 00:21:48.346 it's certainly encouraging an HTC,  
NOTE Confidence: 0.876957294166667

00:21:48.350 --> 00:21:50.400 but it requires cross validation  
NOTE Confidence: 0.876957294166667

00:21:50.400 --> 00:21:51.630 and better precision.  
NOTE Confidence: 0.876957294166667

00:21:51.630 --> 00:21:54.414 I would say that detecting early  
NOTE Confidence: 0.876957294166667

00:21:54.414 --> 00:21:56.196 HCC is difficult actually.  
NOTE Confidence: 0.876957294166667

00:21:56.196 --> 00:21:58.512 Where these biomarkers may be most  
NOTE Confidence: 0.876957294166667

00:21:58.512 --> 00:22:01.428 important is in detecting recurrence, Umm.  
NOTE Confidence: 0.876957294166667

00:22:01.428 --> 00:22:04.470 So there's a lot of work going on here.  
NOTE Confidence: 0.876957294166667

00:22:04.470 --> 00:22:06.468 But I think for early detection,  
NOTE Confidence: 0.876957294166667

00:22:06.470 --> 00:22:09.326 liquid biopsy isn't yet ready for prime time.  
NOTE Confidence: 0.876957294166667

00:22:09.330 --> 00:22:11.136 There's a lot of things that are

NOTE Confidence: 0.876957294166667  
00:22:11.136 --> 00:22:12.670 very intriguing in liquid biopsy.  
NOTE Confidence: 0.876957294166667  
00:22:12.670 --> 00:22:13.480 So it's not.  
NOTE Confidence: 0.876957294166667  
00:22:13.480 --> 00:22:14.560 Just circulating tumor cells,  
NOTE Confidence: 0.719154176  
00:22:14.560 --> 00:22:18.260 it's things like extracellular vesicles,  
NOTE Confidence: 0.719154176  
00:22:18.260 --> 00:22:20.088 you know, circulating free  
NOTE Confidence: 0.719154176  
00:22:20.088 --> 00:22:21.916 DNA and methylated DNA.  
NOTE Confidence: 0.719154176  
00:22:21.920 --> 00:22:23.816 So there's a lot to learn here and  
NOTE Confidence: 0.719154176  
00:22:23.816 --> 00:22:25.918 a lot of platforms on which we can  
NOTE Confidence: 0.719154176  
00:22:25.918 --> 00:22:27.734 kind of look at different things  
NOTE Confidence: 0.719154176  
00:22:27.734 --> 00:22:29.870 from the blood that we collect.  
NOTE Confidence: 0.719154176  
00:22:29.870 --> 00:22:33.030 So even with the best of intentions of  
NOTE Confidence: 0.719154176  
00:22:33.030 --> 00:22:36.708 trying to think about different populations,  
NOTE Confidence: 0.719154176  
00:22:36.710 --> 00:22:38.598 I can bring you down to the microscopic  
NOTE Confidence: 0.719154176  
00:22:38.598 --> 00:22:40.825 level and tell you that not only are  
NOTE Confidence: 0.719154176  
00:22:40.825 --> 00:22:42.295 our populations heterogeneous in terms  
NOTE Confidence: 0.719154176

00:22:42.295 --> 00:22:43.987 of their ideology of liver disease,  
NOTE Confidence: 0.719154176

00:22:43.990 --> 00:22:45.815 but the cancer itself is  
NOTE Confidence: 0.719154176

00:22:45.815 --> 00:22:46.545 really heterogeneous.  
NOTE Confidence: 0.719154176

00:22:46.550 --> 00:22:49.826 And there can be intratumoral heterogeneity,  
NOTE Confidence: 0.719154176

00:22:49.830 --> 00:22:50.892 intratumoral heterogeneity.  
NOTE Confidence: 0.719154176

00:22:50.892 --> 00:22:53.016 And so this actually  
NOTE Confidence: 0.719154176

00:22:53.016 --> 00:22:54.609 becomes very complicated.  
NOTE Confidence: 0.719154176

00:22:54.610 --> 00:22:57.049 And all of this is HC under the microscope.  
NOTE Confidence: 0.719154176

00:22:57.050 --> 00:22:58.724 So you can see just how  
NOTE Confidence: 0.719154176

00:22:58.724 --> 00:23:00.440 different some of these patterns.  
NOTE Confidence: 0.719154176

00:23:00.440 --> 00:23:02.555 Yeah. So again,  
NOTE Confidence: 0.719154176

00:23:02.555 --> 00:23:04.670 there's intratumoral heterogeneity,  
NOTE Confidence: 0.719154176

00:23:04.670 --> 00:23:05.550 intratumoral heterogeneity  
NOTE Confidence: 0.719154176

00:23:05.550 --> 00:23:08.162 and this is really, you know,  
NOTE Confidence: 0.719154176

00:23:08.162 --> 00:23:09.440 obviously interpatient heterogeneity,  
NOTE Confidence: 0.719154176

00:23:09.440 --> 00:23:10.421 which I've discussed.

NOTE Confidence: 0.719154176

00:23:10.421 --> 00:23:12.710 But then there's a lot going on

NOTE Confidence: 0.719154176

00:23:12.780 --> 00:23:14.970 in terms of components of tumor

NOTE Confidence: 0.719154176

00:23:14.970 --> 00:23:16.430 heterogeneity in the liver.

NOTE Confidence: 0.719154176

00:23:16.430 --> 00:23:18.572 So the liver is a complicated organ

NOTE Confidence: 0.719154176

00:23:18.572 --> 00:23:21.044 where there's a lot of innate immune

NOTE Confidence: 0.719154176

00:23:21.044 --> 00:23:22.532 suppression because actually the

NOTE Confidence: 0.719154176

00:23:22.532 --> 00:23:24.784 liver is what screens for foreign

NOTE Confidence: 0.719154176

00:23:24.784 --> 00:23:26.470 pathogens in your diet, right,

NOTE Confidence: 0.719154176

00:23:26.470 --> 00:23:28.150 and all the things that you're seeing.

NOTE Confidence: 0.719154176

00:23:28.150 --> 00:23:30.640 So these cancers grow up in a in a fairly.

NOTE Confidence: 0.719154176

00:23:30.640 --> 00:23:31.648 Immune suppressed environment.

NOTE Confidence: 0.719154176

00:23:31.648 --> 00:23:33.664 So it's a little bit different

NOTE Confidence: 0.719154176

00:23:33.664 --> 00:23:35.429 than the milieu of other organs.

NOTE Confidence: 0.719154176

00:23:35.430 --> 00:23:37.702 So there really is a lot to consider

NOTE Confidence: 0.719154176

00:23:37.702 --> 00:23:39.659 in terms of how to study this.

NOTE Confidence: 0.719154176

00:23:39.660 --> 00:23:41.340 And teasing out oncogenic pathways  
NOTE Confidence: 0.719154176

00:23:41.340 --> 00:23:43.451 from the pathways that are already  
NOTE Confidence: 0.719154176

00:23:43.451 --> 00:23:44.927 upregulated from hepatic injury  
NOTE Confidence: 0.719154176

00:23:44.927 --> 00:23:46.772 and repair is very complex.  
NOTE Confidence: 0.719154176

00:23:46.780 --> 00:23:49.192 And I think we all like to think linearly,  
NOTE Confidence: 0.719154176

00:23:49.200 --> 00:23:51.258 but it doesn't really work here.  
NOTE Confidence: 0.719154176

00:23:51.260 --> 00:23:53.073 So these are all the things that  
NOTE Confidence: 0.719154176

00:23:53.073 --> 00:23:54.662 are associated with the paddock  
NOTE Confidence: 0.719154176

00:23:54.662 --> 00:23:55.799 inflammation and fibrosis,  
NOTE Confidence: 0.719154176

00:23:55.800 --> 00:23:57.068 some of them individually,  
NOTE Confidence: 0.719154176

00:23:57.068 --> 00:23:58.336 some of them synergistically,  
NOTE Confidence: 0.719154176

00:23:58.340 --> 00:24:00.734 some of them lumped together like metabolic,  
NOTE Confidence: 0.719154176

00:24:00.740 --> 00:24:02.288 obesity, Nash and diabetes,  
NOTE Confidence: 0.719154176

00:24:02.288 --> 00:24:03.836 which are all interrelated.  
NOTE Confidence: 0.719154176

00:24:03.840 --> 00:24:05.766 And we like to think that all of these  
NOTE Confidence: 0.719154176

00:24:05.766 --> 00:24:07.622 start this cascade that goes stepwise

NOTE Confidence: 0.719154176

00:24:07.622 --> 00:24:09.700 from inflammation and fibrosis to advanced.

NOTE Confidence: 0.719154176

00:24:09.700 --> 00:24:12.150 Fibrosis and cirrhosis to HCC,

NOTE Confidence: 0.719154176

00:24:12.150 --> 00:24:14.068 but it really doesn't happen that way.

NOTE Confidence: 0.719154176

00:24:14.070 --> 00:24:16.950 And we know that 20 to 30% of HTC

NOTE Confidence: 0.719154176

00:24:16.950 --> 00:24:18.870 and hepatitis B NAFLD and HIV

NOTE Confidence: 0.719154176

00:24:18.870 --> 00:24:21.327 arises in the absence of cirrhosis.

NOTE Confidence: 0.719154176

00:24:21.330 --> 00:24:22.758 So we can't really,

NOTE Confidence: 0.719154176

00:24:22.758 --> 00:24:24.186 although it's very tempting,

NOTE Confidence: 0.719154176

00:24:24.190 --> 00:24:25.948 we can't really think linearly here.

NOTE Confidence: 0.719154176

00:24:25.950 --> 00:24:28.046 We have to think about different hits when

NOTE Confidence: 0.719154176

00:24:28.046 --> 00:24:30.449 in the lifetime these hits are happening,

NOTE Confidence: 0.719154176

00:24:30.450 --> 00:24:31.958 what are the exposures,

NOTE Confidence: 0.719154176

00:24:31.958 --> 00:24:33.466 the persons involved with,

NOTE Confidence: 0.719154176

00:24:33.470 --> 00:24:33.730 etcetera.

NOTE Confidence: 0.719154176

00:24:33.730 --> 00:24:36.070 So there's a lot really to consider and I

NOTE Confidence: 0.719154176

00:24:36.122 --> 00:24:38.138 think these stepwise schematics are great  
NOTE Confidence: 0.719154176

00:24:38.138 --> 00:24:40.150 if you're learning about the disease.  
NOTE Confidence: 0.719154176

00:24:40.150 --> 00:24:41.697 So once you've learned about their disease,  
NOTE Confidence: 0.719154176

00:24:41.700 --> 00:24:45.067 you realize just how complicated it is.  
NOTE Confidence: 0.719154176

00:24:45.070 --> 00:24:46.568 So one of the things we're looking  
NOTE Confidence: 0.719154176

00:24:46.568 --> 00:24:48.376 at in the VA and this is again  
NOTE Confidence: 0.719154176

00:24:48.376 --> 00:24:49.491 work in the vocal cohort,  
NOTE Confidence: 0.719154176

00:24:49.500 --> 00:24:52.419 which is a big virtual cohort of  
NOTE Confidence: 0.719154176

00:24:52.420 --> 00:24:54.240 130,000 patients with cirrhosis.  
NOTE Confidence: 0.719154176

00:24:54.240 --> 00:24:57.710 And the VA over these past 20 years  
NOTE Confidence: 0.719154176

00:24:57.710 --> 00:25:00.120 is some of the effects of blood  
NOTE Confidence: 0.719154176

00:25:00.120 --> 00:25:02.320 glucose control and some hypothesis  
NOTE Confidence: 0.719154176

00:25:02.320 --> 00:25:04.080 around blood glucose control.  
NOTE Confidence: 0.719154176

00:25:04.080 --> 00:25:06.650 And we actually found quite  
NOTE Confidence: 0.719154176

00:25:06.650 --> 00:25:08.192 antithetically that sustained  
NOTE Confidence: 0.719154176

00:25:08.192 --> 00:25:09.220 blood glucose

NOTE Confidence: 0.860559434705882

00:25:09.298 --> 00:25:12.560 control actually increases your risk for HTC.

NOTE Confidence: 0.860559434705882

00:25:12.560 --> 00:25:14.294 Why is that? It's because of

NOTE Confidence: 0.860559434705882

00:25:14.294 --> 00:25:15.450 the Tropic effective insulin.

NOTE Confidence: 0.860559434705882

00:25:15.450 --> 00:25:18.050 So we have to actually look at the

NOTE Confidence: 0.860559434705882

00:25:18.050 --> 00:25:19.447 pharmacoepidemiology of these patients

NOTE Confidence: 0.860559434705882

00:25:19.447 --> 00:25:21.505 when they were started on insulin,

NOTE Confidence: 0.860559434705882

00:25:21.510 --> 00:25:23.028 when in the course of their

NOTE Confidence: 0.860559434705882

00:25:23.028 --> 00:25:24.389 diabetes and their liver disease

NOTE Confidence: 0.860559434705882

00:25:24.389 --> 00:25:25.889 they were started on insulin,

NOTE Confidence: 0.860559434705882

00:25:25.890 --> 00:25:28.890 what other drugs they received etcetera.

NOTE Confidence: 0.860559434705882

00:25:28.890 --> 00:25:31.226 So this is really just to show you

NOTE Confidence: 0.860559434705882

00:25:31.226 --> 00:25:32.691 the robustness of the associations

NOTE Confidence: 0.860559434705882

00:25:32.691 --> 00:25:34.609 you can look at in the VA,

NOTE Confidence: 0.860559434705882

00:25:34.610 --> 00:25:36.230 but that you can't stop there.

NOTE Confidence: 0.860559434705882

00:25:36.230 --> 00:25:37.796 Actually there's a whole lot more

NOTE Confidence: 0.860559434705882

00:25:37.796 --> 00:25:39.942 that has to be done both in terms  
NOTE Confidence: 0.860559434705882

00:25:39.942 --> 00:25:41.508 of looking at the richness of  
NOTE Confidence: 0.860559434705882

00:25:41.566 --> 00:25:43.306 the pharmaco epidemiological data  
NOTE Confidence: 0.860559434705882

00:25:43.306 --> 00:25:45.046 but also then mechanistically.  
NOTE Confidence: 0.860559434705882

00:25:45.050 --> 00:25:46.390 So this is really nice.  
NOTE Confidence: 0.860559434705882

00:25:46.390 --> 00:25:48.253 To be able to kind of take a really  
NOTE Confidence: 0.860559434705882

00:25:48.253 --> 00:25:49.999 like 30,000 foot view and say what  
NOTE Confidence: 0.860559434705882

00:25:49.999 --> 00:25:52.132 are all the things that now we need to  
NOTE Confidence: 0.860559434705882

00:25:52.132 --> 00:25:54.438 study based on what we found is what  
NOTE Confidence: 0.860559434705882

00:25:54.438 --> 00:25:57.280 we didn't expect quite a paradox here.  
NOTE Confidence: 0.860559434705882

00:25:57.280 --> 00:25:59.460 So HTC is clinically complicated  
NOTE Confidence: 0.860559434705882

00:25:59.460 --> 00:26:01.640 because it's unique among cancers.  
NOTE Confidence: 0.860559434705882

00:26:01.640 --> 00:26:03.182 And this is where I think  
NOTE Confidence: 0.860559434705882

00:26:03.182 --> 00:26:04.236 oncologists sometimes say, oh,  
NOTE Confidence: 0.860559434705882

00:26:04.236 --> 00:26:05.340 you know, you hepatologists,  
NOTE Confidence: 0.860559434705882

00:26:05.340 --> 00:26:06.396 you always want to stand out,

NOTE Confidence: 0.860559434705882  
00:26:06.400 --> 00:26:07.216 be unique, right.  
NOTE Confidence: 0.860559434705882  
00:26:07.216 --> 00:26:08.576 There's nothing unique about this,  
NOTE Confidence: 0.860559434705882  
00:26:08.580 --> 00:26:10.780 but it really is unique.  
NOTE Confidence: 0.860559434705882  
00:26:10.780 --> 00:26:13.076 So it's one patient with two diseases  
NOTE Confidence: 0.860559434705882  
00:26:13.076 --> 00:26:14.791 and cirrhosis leads to multifocal  
NOTE Confidence: 0.860559434705882  
00:26:14.791 --> 00:26:16.795 liver cancer because of the field  
NOTE Confidence: 0.860559434705882  
00:26:16.795 --> 00:26:19.080 effect and very high recurrence rates.  
NOTE Confidence: 0.860559434705882  
00:26:19.080 --> 00:26:20.885 It also really has complicated  
NOTE Confidence: 0.860559434705882  
00:26:20.885 --> 00:26:23.040 treatment and trial design and it  
NOTE Confidence: 0.860559434705882  
00:26:23.040 --> 00:26:25.028 is a cancer that's something of  
NOTE Confidence: 0.860559434705882  
00:26:25.028 --> 00:26:26.753 an anathema to oncologist because  
NOTE Confidence: 0.860559434705882  
00:26:26.753 --> 00:26:28.209 you guys like tissue.  
NOTE Confidence: 0.860559434705882  
00:26:28.210 --> 00:26:30.426 And we can diagnose this by imaging alone.  
NOTE Confidence: 0.860559434705882  
00:26:30.430 --> 00:26:31.970 And actually that's where I  
NOTE Confidence: 0.860559434705882  
00:26:31.970 --> 00:26:33.510 think our field has misstepped.  
NOTE Confidence: 0.860559434705882

00:26:33.510 --> 00:26:35.388 I think we actually put ourselves  
NOTE Confidence: 0.860559434705882

00:26:35.388 --> 00:26:36.981 way behind without getting biopsies  
NOTE Confidence: 0.860559434705882

00:26:36.981 --> 00:26:38.109 for so many years.  
NOTE Confidence: 0.860559434705882

00:26:38.110 --> 00:26:40.476 It is the only solid organ malignancy  
NOTE Confidence: 0.860559434705882

00:26:40.476 --> 00:26:42.298 for which transplantation offers a cure,  
NOTE Confidence: 0.860559434705882

00:26:42.300 --> 00:26:43.840 which puts the onus on us to  
NOTE Confidence: 0.860559434705882

00:26:43.840 --> 00:26:45.562 make sure that we're sending the  
NOTE Confidence: 0.860559434705882

00:26:45.562 --> 00:26:46.906 right people for transplant.  
NOTE Confidence: 0.860559434705882

00:26:46.910 --> 00:26:49.766 But surgeons love to push the envelope.  
NOTE Confidence: 0.860559434705882

00:26:49.770 --> 00:26:51.814 They should push the envelope and we're  
NOTE Confidence: 0.860559434705882

00:26:51.814 --> 00:26:53.630 really beginning to push the envelope,  
NOTE Confidence: 0.860559434705882

00:26:53.630 --> 00:26:56.038 meaning that people who we thought had  
NOTE Confidence: 0.860559434705882

00:26:56.038 --> 00:26:58.200 disease way outside bounds are having.  
NOTE Confidence: 0.860559434705882

00:26:58.200 --> 00:26:59.796 Remarkable complete responses  
NOTE Confidence: 0.860559434705882

00:26:59.796 --> 00:27:01.924 on immunotherapies and coming  
NOTE Confidence: 0.860559434705882

00:27:01.924 --> 00:27:03.520 back to transplant,

NOTE Confidence: 0.860559434705882  
00:27:03.520 --> 00:27:07.120 which is very weird and very  
NOTE Confidence: 0.860559434705882  
00:27:07.120 --> 00:27:08.420 frightening for many of us.  
NOTE Confidence: 0.860559434705882  
00:27:08.420 --> 00:27:10.639 But their early responses look really good.  
NOTE Confidence: 0.860559434705882  
00:27:10.640 --> 00:27:12.179 So I think we're going to see a lot  
NOTE Confidence: 0.860559434705882  
00:27:12.179 --> 00:27:13.722 of stage migration with the newer  
NOTE Confidence: 0.860559434705882  
00:27:13.722 --> 00:27:15.819 therapies and we're going to have to be very,  
NOTE Confidence: 0.860559434705882  
00:27:15.820 --> 00:27:18.660 very careful in how we treat these people.  
NOTE Confidence: 0.860559434705882  
00:27:18.660 --> 00:27:20.756 And I think the adage of just because  
NOTE Confidence: 0.860559434705882  
00:27:20.756 --> 00:27:23.024 you can do it doesn't mean you should  
NOTE Confidence: 0.860559434705882  
00:27:23.024 --> 00:27:25.392 do it is something we have to take  
NOTE Confidence: 0.860559434705882  
00:27:25.392 --> 00:27:27.174 very seriously as as this landscape  
NOTE Confidence: 0.860559434705882  
00:27:27.180 --> 00:27:29.870 changes in terms of treatment.  
NOTE Confidence: 0.860559434705882  
00:27:29.870 --> 00:27:32.086 So the treatment of HCC up until now  
NOTE Confidence: 0.860559434705882  
00:27:32.086 --> 00:27:34.037 has followed a very linear pathway  
NOTE Confidence: 0.860559434705882  
00:27:34.037 --> 00:27:35.702 from early to advanced disease.  
NOTE Confidence: 0.860559434705882

00:27:35.710 --> 00:27:36.991 So hepatology surgery,  
NOTE Confidence: 0.860559434705882

00:27:36.991 --> 00:27:39.126 both surgical oncology and transplant  
NOTE Confidence: 0.860559434705882

00:27:39.126 --> 00:27:41.539 surgery and interventional radiology have  
NOTE Confidence: 0.860559434705882

00:27:41.539 --> 00:27:44.024 really dominated early stage disease.  
NOTE Confidence: 0.860559434705882

00:27:44.030 --> 00:27:46.085 And oncology is usually consulted  
NOTE Confidence: 0.860559434705882

00:27:46.085 --> 00:27:47.729 only in diffuse infiltrative  
NOTE Confidence: 0.860559434705882

00:27:47.729 --> 00:27:49.563 intermediate stage disease or in  
NOTE Confidence: 0.860559434705882

00:27:49.563 --> 00:27:50.923 advanced disease with vascular  
NOTE Confidence: 0.860559434705882

00:27:50.923 --> 00:27:52.650 invasion or extrahepatic Mets.  
NOTE Confidence: 0.86528169

00:27:52.650 --> 00:27:54.505 And that's really unfortunate for  
NOTE Confidence: 0.86528169

00:27:54.505 --> 00:27:55.989 the oncologist because sometimes  
NOTE Confidence: 0.86528169

00:27:55.989 --> 00:27:57.472 they're really referred to you  
NOTE Confidence: 0.86528169

00:27:57.472 --> 00:27:59.062 too late and they're too sick.  
NOTE Confidence: 0.86528169

00:27:59.070 --> 00:28:01.765 The treatment and had you brought your  
NOTE Confidence: 0.86528169

00:28:01.765 --> 00:28:04.178 expertise to the table earlier on,  
NOTE Confidence: 0.86528169

00:28:04.180 --> 00:28:05.308 it probably would have

NOTE Confidence: 0.86528169

00:28:05.308 --> 00:28:06.436 actually been really good.

NOTE Confidence: 0.86528169

00:28:06.440 --> 00:28:08.540 So I think oncology now feels very

NOTE Confidence: 0.86528169

00:28:08.540 --> 00:28:10.436 much welcome at the table because

NOTE Confidence: 0.86528169

00:28:10.436 --> 00:28:12.620 we do have so many new treatments.

NOTE Confidence: 0.86528169

00:28:12.620 --> 00:28:14.664 But also the lack of that expertise

NOTE Confidence: 0.86528169

00:28:14.664 --> 00:28:16.861 for so long because we really

NOTE Confidence: 0.86528169

00:28:16.861 --> 00:28:18.956 didn't have good systemic therapies,

NOTE Confidence: 0.86528169

00:28:18.960 --> 00:28:21.140 I think really detracted from

NOTE Confidence: 0.86528169

00:28:21.140 --> 00:28:23.320 our development as a field.

NOTE Confidence: 0.86528169

00:28:23.320 --> 00:28:25.231 So the advent of new therapies is

NOTE Confidence: 0.86528169

00:28:25.231 --> 00:28:26.530 definitely changing this paradigm,

NOTE Confidence: 0.86528169

00:28:26.530 --> 00:28:29.155 not only the timing of specialty involvement.

NOTE Confidence: 0.86528169

00:28:29.160 --> 00:28:31.267 But also the types of specialists involved,

NOTE Confidence: 0.86528169

00:28:31.270 --> 00:28:32.000 for example,

NOTE Confidence: 0.86528169

00:28:32.000 --> 00:28:34.555 SBRT now has a place in the

NOTE Confidence: 0.86528169

00:28:34.555 --> 00:28:36.449 arsenal for HCC management.  
NOTE Confidence: 0.86528169

00:28:36.450 --> 00:28:39.026 So this is not for you to memorize,  
NOTE Confidence: 0.86528169

00:28:39.030 --> 00:28:41.802 but the staging classification that we use  
NOTE Confidence: 0.86528169

00:28:41.802 --> 00:28:44.640 called the BCLC staging classification.  
NOTE Confidence: 0.86528169

00:28:44.640 --> 00:28:46.496 And the things that I just want to  
NOTE Confidence: 0.86528169

00:28:46.496 --> 00:28:48.336 draw your attention to is that really  
NOTE Confidence: 0.86528169

00:28:48.336 --> 00:28:50.312 we have to think about the patient  
NOTE Confidence: 0.86528169

00:28:50.312 --> 00:28:51.817 and their functional status first  
NOTE Confidence: 0.86528169

00:28:51.817 --> 00:28:53.722 in terms of their liver function.  
NOTE Confidence: 0.86528169

00:28:53.722 --> 00:28:56.060 So this is really what drives our  
NOTE Confidence: 0.86528169

00:28:56.128 --> 00:28:57.588 initial decision making before  
NOTE Confidence: 0.86528169

00:28:57.588 --> 00:28:59.778 we even begin to count tumor.  
NOTE Confidence: 0.86528169

00:28:59.780 --> 00:29:02.055 Or think about tumor burden and then  
NOTE Confidence: 0.86528169

00:29:02.055 --> 00:29:04.729 tumor burden is actually looked at across,  
NOTE Confidence: 0.86528169

00:29:04.730 --> 00:29:06.160 you know very early, early,  
NOTE Confidence: 0.86528169

00:29:06.160 --> 00:29:08.644 intermediate and advanced stages.

NOTE Confidence: 0.86528169

00:29:08.644 --> 00:29:11.344 And then we have treatments

NOTE Confidence: 0.86528169

00:29:11.344 --> 00:29:13.429 ascribed to those different stages

NOTE Confidence: 0.86528169

00:29:13.429 --> 00:29:15.320 with a expected survival,

NOTE Confidence: 0.86528169

00:29:15.320 --> 00:29:17.728 which I have to say has gone up

NOTE Confidence: 0.86528169

00:29:17.728 --> 00:29:19.527 significantly in the last 10 years.

NOTE Confidence: 0.86528169

00:29:19.530 --> 00:29:20.102 You know,

NOTE Confidence: 0.86528169

00:29:20.102 --> 00:29:22.390 essentially it used to be 3 months for

NOTE Confidence: 0.86528169

00:29:22.459 --> 00:29:24.846 advanced stage and now we're looking at,

NOTE Confidence: 0.86528169

00:29:24.850 --> 00:29:26.230 you know, over two years,

NOTE Confidence: 0.86528169

00:29:26.230 --> 00:29:28.050 over 2.5 years for taste.

NOTE Confidence: 0.86528169

00:29:28.050 --> 00:29:28.834 I mean,

NOTE Confidence: 0.86528169

00:29:28.834 --> 00:29:30.794 these are quite big differences

NOTE Confidence: 0.86528169

00:29:30.794 --> 00:29:32.350 than 10 years ago.

NOTE Confidence: 0.86528169

00:29:32.350 --> 00:29:34.310 What's new about this classification

NOTE Confidence: 0.86528169

00:29:34.310 --> 00:29:36.570 is everything below this blue bar,

NOTE Confidence: 0.86528169

00:29:36.570 --> 00:29:38.490 so essentially before I go  
NOTE Confidence: 0.86528169

00:29:38.490 --> 00:29:40.026 below the blue bar.  
NOTE Confidence: 0.86528169

00:29:40.030 --> 00:29:41.966 I just want to say that they've now  
NOTE Confidence: 0.86528169

00:29:41.966 --> 00:29:43.218 separated out intermediate stage  
NOTE Confidence: 0.86528169

00:29:43.218 --> 00:29:45.354 disease because we know that diffuse  
NOTE Confidence: 0.86528169

00:29:45.354 --> 00:29:47.160 infiltrative HCC is a different actor,  
NOTE Confidence: 0.86528169

00:29:47.160 --> 00:29:48.516 especially when it's by low bar,  
NOTE Confidence: 0.86528169

00:29:48.520 --> 00:29:52.180 you really can't approach it locally.  
NOTE Confidence: 0.86528169

00:29:52.180 --> 00:29:54.598 But we've now put in successful  
NOTE Confidence: 0.86528169

00:29:54.598 --> 00:29:56.706 downstaging again moving back towards  
NOTE Confidence: 0.86528169

00:29:56.706 --> 00:29:58.826 a curative or transplant effort.  
NOTE Confidence: 0.86528169

00:29:58.826 --> 00:30:01.808 And then the stage migration is a  
NOTE Confidence: 0.86528169

00:30:01.808 --> 00:30:04.073 theme that's really being played  
NOTE Confidence: 0.86528169

00:30:04.073 --> 00:30:06.340 out both by surgical oncologists  
NOTE Confidence: 0.86528169

00:30:06.340 --> 00:30:07.720 and transplant surgeons.  
NOTE Confidence: 0.86528169

00:30:07.720 --> 00:30:10.200 And then we have now up to three.

NOTE Confidence: 0.86528169

00:30:10.200 --> 00:30:11.904 Kinds of systemic therapy when we

NOTE Confidence: 0.86528169

00:30:11.904 --> 00:30:13.830 only had one line for 10 years.

NOTE Confidence: 0.86528169

00:30:13.830 --> 00:30:15.546 So in the last five years,

NOTE Confidence: 0.86528169

00:30:15.550 --> 00:30:18.220 we've seen a lot of change.

NOTE Confidence: 0.86528169

00:30:18.220 --> 00:30:20.055 And that's really why multidisciplinary

NOTE Confidence: 0.86528169

00:30:20.055 --> 00:30:21.156 care is essential.

NOTE Confidence: 0.86528169

00:30:21.160 --> 00:30:23.624 So we really have to define our endpoints.

NOTE Confidence: 0.86528169

00:30:23.630 --> 00:30:25.556 So we want to improve survival.

NOTE Confidence: 0.86528169

00:30:25.560 --> 00:30:26.930 Everybody wants to improve survival,

NOTE Confidence: 0.86528169

00:30:26.930 --> 00:30:28.628 but survival is relative to the

NOTE Confidence: 0.86528169

00:30:28.628 --> 00:30:29.194 liver disease.

NOTE Confidence: 0.86528169

00:30:29.200 --> 00:30:31.006 So you really don't want to offer

NOTE Confidence: 0.86528169

00:30:31.006 --> 00:30:32.804 a treatment that's going to hasten

NOTE Confidence: 0.86528169

00:30:32.804 --> 00:30:34.419 somebody's death from liver failure.

NOTE Confidence: 0.86528169

00:30:34.420 --> 00:30:35.480 And that is a very,

NOTE Confidence: 0.86528169

00:30:35.480 --> 00:30:36.765 very tough decision that requires  
NOTE Confidence: 0.86528169

00:30:36.765 --> 00:30:37.793 a lot of thought.  
NOTE Confidence: 0.86528169

00:30:37.800 --> 00:30:39.368 You really need to know your patients,  
NOTE Confidence: 0.86528169

00:30:39.370 --> 00:30:40.666 you need to know their markers,  
NOTE Confidence: 0.86528169

00:30:40.670 --> 00:30:42.476 you need to know them well.  
NOTE Confidence: 0.86528169

00:30:42.480 --> 00:30:44.330 Proper risk assessment and obviously  
NOTE Confidence: 0.86528169

00:30:44.330 --> 00:30:46.180 proper patient selection is key  
NOTE Confidence: 0.866733408461538

00:30:46.242 --> 00:30:47.454 to any surgeon. You know,  
NOTE Confidence: 0.866733408461538

00:30:47.454 --> 00:30:48.636 surgeon doesn't want to be surprised.  
NOTE Confidence: 0.866733408461538

00:30:48.640 --> 00:30:50.405 There are. There are standards  
NOTE Confidence: 0.866733408461538

00:30:50.405 --> 00:30:53.090 that have to be set and there's,  
NOTE Confidence: 0.866733408461538

00:30:53.090 --> 00:30:55.034 as I've mentioned, a lot of Gray areas,  
NOTE Confidence: 0.866733408461538

00:30:55.040 --> 00:30:57.032 but there's also a lot of  
NOTE Confidence: 0.866733408461538

00:30:57.032 --> 00:30:58.028 variations among disciplines.  
NOTE Confidence: 0.866733408461538

00:30:58.030 --> 00:30:58.940 For example,  
NOTE Confidence: 0.866733408461538

00:30:58.940 --> 00:31:00.760 surgical oncologists approach surgery

NOTE Confidence: 0.866733408461538

00:31:00.760 --> 00:31:03.130 very differently than transplant surgeons.

NOTE Confidence: 0.866733408461538

00:31:03.130 --> 00:31:04.718 And there's variations among

NOTE Confidence: 0.866733408461538

00:31:04.718 --> 00:31:05.909 programs and regions.

NOTE Confidence: 0.866733408461538

00:31:05.910 --> 00:31:07.385 And especially when it comes

NOTE Confidence: 0.866733408461538

00:31:07.385 --> 00:31:08.270 to liver transplantation,

NOTE Confidence: 0.866733408461538

00:31:08.270 --> 00:31:09.365 there's significant variation.

NOTE Confidence: 0.866733408461538

00:31:09.365 --> 00:31:12.795 So our job as a group of people who

NOTE Confidence: 0.866733408461538

00:31:12.795 --> 00:31:15.623 take care of these patients in a

NOTE Confidence: 0.866733408461538

00:31:15.623 --> 00:31:17.755 multidisciplinary way is to identify

NOTE Confidence: 0.866733408461538

00:31:17.755 --> 00:31:19.820 the optimal candidates for treatment.

NOTE Confidence: 0.866733408461538

00:31:19.820 --> 00:31:21.900 Identify contraindications and then

NOTE Confidence: 0.866733408461538

00:31:21.900 --> 00:31:24.500 consider them across the continuum,

NOTE Confidence: 0.866733408461538

00:31:24.500 --> 00:31:25.716 weaving patients back to

NOTE Confidence: 0.866733408461538

00:31:25.716 --> 00:31:27.236 tumor board all the time.

NOTE Confidence: 0.866733408461538

00:31:27.240 --> 00:31:29.774 And I would argue that every single

NOTE Confidence: 0.866733408461538

00:31:29.774 --> 00:31:31.567 recurrence and every single new  
NOTE Confidence: 0.866733408461538

00:31:31.567 --> 00:31:33.786 tumor has to be brought to tumor  
NOTE Confidence: 0.866733408461538

00:31:33.786 --> 00:31:35.917 board because you will forget that  
NOTE Confidence: 0.866733408461538

00:31:35.917 --> 00:31:37.995 patient and you will miss their  
NOTE Confidence: 0.866733408461538

00:31:37.995 --> 00:31:39.295 opportunity for something that  
NOTE Confidence: 0.866733408461538

00:31:39.295 --> 00:31:40.920 could really prolong your life.  
NOTE Confidence: 0.866733408461538

00:31:40.920 --> 00:31:43.002 So tumor board for liver cancer  
NOTE Confidence: 0.866733408461538

00:31:43.002 --> 00:31:45.120 I think is absolutely necessary.  
NOTE Confidence: 0.866733408461538

00:31:45.120 --> 00:31:47.160 You can't take care of these patients alone.  
NOTE Confidence: 0.866733408461538

00:31:47.160 --> 00:31:49.272 You don't want the onus of all that  
NOTE Confidence: 0.866733408461538

00:31:49.272 --> 00:31:50.998 decision making falling on one person.  
NOTE Confidence: 0.866733408461538

00:31:51.000 --> 00:31:53.821 And this graphic is from a paper  
NOTE Confidence: 0.866733408461538

00:31:53.821 --> 00:31:56.975 written by Doctor Jaffe here at Yale  
NOTE Confidence: 0.866733408461538

00:31:56.975 --> 00:31:59.885 really kind of describing this playbook.  
NOTE Confidence: 0.866733408461538

00:31:59.890 --> 00:32:00.584 You know,  
NOTE Confidence: 0.866733408461538

00:32:00.584 --> 00:32:02.319 essentially the hepatologist is quarterback.

NOTE Confidence: 0.866733408461538  
00:32:02.320 --> 00:32:03.862 Usually these folks come through us  
NOTE Confidence: 0.866733408461538  
00:32:03.862 --> 00:32:05.919 and then we bring them to tumor board.  
NOTE Confidence: 0.866733408461538  
00:32:05.920 --> 00:32:07.306 But there are a lot of different  
NOTE Confidence: 0.866733408461538  
00:32:07.306 --> 00:32:08.481 referral lines and we've seen  
NOTE Confidence: 0.866733408461538  
00:32:08.481 --> 00:32:09.565 people coming through oncology,  
NOTE Confidence: 0.866733408461538  
00:32:09.570 --> 00:32:11.022 coming through interventional radiology.  
NOTE Confidence: 0.866733408461538  
00:32:11.022 --> 00:32:13.200 The most important thing is that  
NOTE Confidence: 0.866733408461538  
00:32:13.258 --> 00:32:14.902 you discuss that patient before you  
NOTE Confidence: 0.866733408461538  
00:32:14.902 --> 00:32:16.856 treat them and that really should be  
NOTE Confidence: 0.866733408461538  
00:32:16.856 --> 00:32:18.470 the norm because there are always  
NOTE Confidence: 0.866733408461538  
00:32:18.470 --> 00:32:20.426 new ideas and if you don't discuss,  
NOTE Confidence: 0.866733408461538  
00:32:20.430 --> 00:32:21.016 you won't.  
NOTE Confidence: 0.866733408461538  
00:32:21.016 --> 00:32:22.880 You won't think about, you know,  
NOTE Confidence: 0.866733408461538  
00:32:22.880 --> 00:32:25.438 what could be a potential, you know,  
NOTE Confidence: 0.866733408461538  
00:32:25.438 --> 00:32:26.266 better therapy.  
NOTE Confidence: 0.866733408461538

00:32:26.266 --> 00:32:28.336 Remember that tumor boards actually  
NOTE Confidence: 0.866733408461538

00:32:28.336 --> 00:32:29.929 serve a lot of purposes.  
NOTE Confidence: 0.866733408461538

00:32:29.930 --> 00:32:30.944 They are accredited.  
NOTE Confidence: 0.866733408461538

00:32:30.944 --> 00:32:32.972 They have to have mandatory attendance  
NOTE Confidence: 0.866733408461538

00:32:32.972 --> 00:32:34.429 from certain disciplines.  
NOTE Confidence: 0.866733408461538

00:32:34.430 --> 00:32:36.194 They have a liaison to the tumor  
NOTE Confidence: 0.866733408461538

00:32:36.194 --> 00:32:37.822 registrar so they can actually pick  
NOTE Confidence: 0.866733408461538

00:32:37.822 --> 00:32:39.466 up cases and report them early.  
NOTE Confidence: 0.866733408461538

00:32:39.470 --> 00:32:40.794 They provide an objective  
NOTE Confidence: 0.866733408461538

00:32:40.794 --> 00:32:42.449 forum for discussion and that  
NOTE Confidence: 0.866733408461538

00:32:42.449 --> 00:32:44.048 they really should be that,  
NOTE Confidence: 0.866733408461538

00:32:44.050 --> 00:32:45.414 an objective form for  
NOTE Confidence: 0.866733408461538

00:32:45.414 --> 00:32:46.437 discussion where everybody,  
NOTE Confidence: 0.866733408461538

00:32:46.440 --> 00:32:47.544 everybody's opinion matters.  
NOTE Confidence: 0.866733408461538

00:32:47.544 --> 00:32:49.016 They should foster trial  
NOTE Confidence: 0.866733408461538

00:32:49.016 --> 00:32:50.330 enrollment and they do.

NOTE Confidence: 0.866733408461538  
00:32:50.330 --> 00:32:51.800 There are many studies that have  
NOTE Confidence: 0.866733408461538  
00:32:51.800 --> 00:32:54.048 shown that and they really help to set  
NOTE Confidence: 0.866733408461538  
00:32:54.048 --> 00:32:55.568 institutional guidelines in Gray areas,  
NOTE Confidence: 0.866733408461538  
00:32:55.570 --> 00:32:56.960 of which we have many.  
NOTE Confidence: 0.866733408461538  
00:32:56.960 --> 00:32:58.024 They're also a really  
NOTE Confidence: 0.866733408461538  
00:32:58.024 --> 00:32:59.088 important thing for trainees.  
NOTE Confidence: 0.866733408461538  
00:32:59.090 --> 00:33:01.090 So the one thing I loved most as a Med  
NOTE Confidence: 0.866733408461538  
00:33:01.151 --> 00:33:03.366 student was multidisciplinary team reward.  
NOTE Confidence: 0.866733408461538  
00:33:03.370 --> 00:33:05.190 So it's no, you know,  
NOTE Confidence: 0.866733408461538  
00:33:05.190 --> 00:33:07.000 strange thing that I ended  
NOTE Confidence: 0.866733408461538  
00:33:07.000 --> 00:33:08.448 up running tumor boards.  
NOTE Confidence: 0.866733408461538  
00:33:08.450 --> 00:33:12.104 So our tumor boards in the VA are regional.  
NOTE Confidence: 0.866733408461538  
00:33:12.110 --> 00:33:14.526 So I run a big Southern New England  
NOTE Confidence: 0.866733408461538  
00:33:14.526 --> 00:33:16.161 regional tumor board that takes  
NOTE Confidence: 0.866733408461538  
00:33:16.161 --> 00:33:18.226 care of Vermont and Providence,  
NOTE Confidence: 0.866733408461538

00:33:18.226 --> 00:33:20.372 also Rhode Island, Vermont,  
NOTE Confidence: 0.866733408461538

00:33:20.372 --> 00:33:20.874 Massachusetts,  
NOTE Confidence: 0.866733408461538

00:33:20.874 --> 00:33:21.376 Connecticut.  
NOTE Confidence: 0.866733408461538

00:33:21.376 --> 00:33:24.890 This is actually a study of about  
NOTE Confidence: 0.866733408461538

00:33:24.962 --> 00:33:26.967 4000 patients across the VA.  
NOTE Confidence: 0.866733408461538

00:33:26.970 --> 00:33:29.364 And what we found in this study  
NOTE Confidence: 0.866733408461538

00:33:29.364 --> 00:33:31.361 was that seeing a hepatologist  
NOTE Confidence: 0.866733408461538

00:33:31.361 --> 00:33:33.145 actually was associated with  
NOTE Confidence: 0.866733408461538

00:33:33.145 --> 00:33:34.736 a 30% mortality reduction,  
NOTE Confidence: 0.866733408461538

00:33:34.736 --> 00:33:36.128 but it wasn't associated  
NOTE Confidence: 0.866733408461538

00:33:36.128 --> 00:33:37.520 with higher odds of  
NOTE Confidence: 0.909572723076923

00:33:37.579 --> 00:33:38.920 receiving active therapy.  
NOTE Confidence: 0.909572723076923

00:33:38.920 --> 00:33:39.740 So what does that mean?  
NOTE Confidence: 0.909572723076923

00:33:39.740 --> 00:33:41.645 That means we're actually carefully  
NOTE Confidence: 0.909572723076923

00:33:41.645 --> 00:33:43.914 deciding who can get therapy and  
NOTE Confidence: 0.909572723076923

00:33:43.914 --> 00:33:45.732 who should not get therapy because

NOTE Confidence: 0.909572723076923

00:33:45.732 --> 00:33:47.815 we know that palliative care in

NOTE Confidence: 0.909572723076923

00:33:47.815 --> 00:33:50.029 hepatology can prolong life in liver

NOTE Confidence: 0.909572723076923

00:33:50.029 --> 00:33:51.996 cancer and in in stage liver disease.

NOTE Confidence: 0.909572723076923

00:33:52.000 --> 00:33:54.191 It's knowing who's the right person for

NOTE Confidence: 0.909572723076923

00:33:54.191 --> 00:33:55.767 that palliative therapy versus who's

NOTE Confidence: 0.909572723076923

00:33:55.767 --> 00:33:57.519 the right person to get treatment.

NOTE Confidence: 0.909572723076923

00:33:57.520 --> 00:33:59.476 And very encouragingly to me because

NOTE Confidence: 0.909572723076923

00:33:59.476 --> 00:34:01.686 you know tumor board is a labor

NOTE Confidence: 0.909572723076923

00:34:01.686 --> 00:34:03.366 of love and very labor intensive,

NOTE Confidence: 0.909572723076923

00:34:03.370 --> 00:34:05.462 multidisciplinary tumor boards also

NOTE Confidence: 0.909572723076923

00:34:05.462 --> 00:34:08.077 were associated with lower mortality.

NOTE Confidence: 0.909572723076923

00:34:08.080 --> 00:34:11.506 So this study was very heartening.

NOTE Confidence: 0.909572723076923

00:34:11.510 --> 00:34:13.421 So we have many options for local

NOTE Confidence: 0.909572723076923

00:34:13.421 --> 00:34:15.044 regional therapy and early and

NOTE Confidence: 0.909572723076923

00:34:15.044 --> 00:34:16.520 intermediate stage disease, Umm.

NOTE Confidence: 0.909572723076923

00:34:16.520 --> 00:34:19.320 So this is the part of the BCLC  
NOTE Confidence: 0.909572723076923

00:34:19.320 --> 00:34:21.043 classification from very early  
NOTE Confidence: 0.909572723076923

00:34:21.043 --> 00:34:22.345 to intermediate stage.  
NOTE Confidence: 0.909572723076923

00:34:22.350 --> 00:34:24.625 And we have liver resection and liver  
NOTE Confidence: 0.909572723076923

00:34:24.625 --> 00:34:26.669 transplantation not for the faint of heart.  
NOTE Confidence: 0.909572723076923

00:34:26.670 --> 00:34:28.329 You need to have really good liver  
NOTE Confidence: 0.909572723076923

00:34:28.329 --> 00:34:29.870 function for a liver resection.  
NOTE Confidence: 0.909572723076923

00:34:29.870 --> 00:34:31.274 Liver transplantation is wonderful  
NOTE Confidence: 0.909572723076923

00:34:31.274 --> 00:34:33.029 because it cures the underlying  
NOTE Confidence: 0.909572723076923

00:34:33.029 --> 00:34:34.397 cirrhosis and the liver cancer,  
NOTE Confidence: 0.909572723076923

00:34:34.400 --> 00:34:36.157 but it's not for everyone and there  
NOTE Confidence: 0.909572723076923

00:34:36.157 --> 00:34:37.849 are very strict criteria for who  
NOTE Confidence: 0.909572723076923

00:34:37.849 --> 00:34:39.324 can and can't get transplanted.  
NOTE Confidence: 0.909572723076923

00:34:39.330 --> 00:34:41.234 Local regional therapies abound.  
NOTE Confidence: 0.909572723076923

00:34:41.234 --> 00:34:44.940 And ablation now can be given thermally,  
NOTE Confidence: 0.909572723076923

00:34:44.940 --> 00:34:49.076 can be given chemically and also with SBRT.

NOTE Confidence: 0.909572723076923

00:34:49.080 --> 00:34:51.042 So there's emerging data to suggest

NOTE Confidence: 0.909572723076923

00:34:51.042 --> 00:34:53.571 that SBRT and small lesions does have

NOTE Confidence: 0.909572723076923

00:34:53.571 --> 00:34:55.859 ablative and curative properties

NOTE Confidence: 0.909572723076923

00:34:55.859 --> 00:34:57.758 for palliative intent.

NOTE Confidence: 0.909572723076923

00:34:57.760 --> 00:34:59.596 So this is moving more towards

NOTE Confidence: 0.909572723076923

00:34:59.596 --> 00:35:00.820 intermediate stage B disease.

NOTE Confidence: 0.909572723076923

00:35:00.820 --> 00:35:03.628 There are transarterial therapies,

NOTE Confidence: 0.909572723076923

00:35:03.628 --> 00:35:06.436 chemoembolization and eitrem or

NOTE Confidence: 0.909572723076923

00:35:06.440 --> 00:35:09.740 why 90 treatment and then SBRT.

NOTE Confidence: 0.909572723076923

00:35:09.740 --> 00:35:12.057 So these therapies are supposed to prolong.

NOTE Confidence: 0.909572723076923

00:35:12.060 --> 00:35:13.730 By about 2 1/2 years,

NOTE Confidence: 0.909572723076923

00:35:13.730 --> 00:35:15.200 which is pretty considerable and

NOTE Confidence: 0.909572723076923

00:35:15.200 --> 00:35:16.670 people have pretty good quality

NOTE Confidence: 0.909572723076923

00:35:16.717 --> 00:35:18.047 of life with these therapies.

NOTE Confidence: 0.909572723076923

00:35:18.050 --> 00:35:20.122 The one thing is that these transarterial

NOTE Confidence: 0.909572723076923

00:35:20.122 --> 00:35:22.126 therapies do take out a penumbra of  
NOTE Confidence: 0.909572723076923

00:35:22.126 --> 00:35:23.722 functioning liver and so you really  
NOTE Confidence: 0.909572723076923

00:35:23.772 --> 00:35:25.830 have to think about their liver function.  
NOTE Confidence: 0.909572723076923

00:35:25.830 --> 00:35:26.589 Same with ablation,  
NOTE Confidence: 0.909572723076923

00:35:26.589 --> 00:35:27.348 but less so.  
NOTE Confidence: 0.909572723076923

00:35:27.350 --> 00:35:30.680 Ablation is usually pretty targeted.  
NOTE Confidence: 0.909572723076923

00:35:30.680 --> 00:35:32.822 So this actually is data that's  
NOTE Confidence: 0.909572723076923

00:35:32.822 --> 00:35:35.287 going to be published as part of  
NOTE Confidence: 0.909572723076923

00:35:35.287 --> 00:35:37.219 the ASLD guide guidance for HCC.  
NOTE Confidence: 0.909572723076923

00:35:37.220 --> 00:35:38.980 And what I can tell you is that  
NOTE Confidence: 0.909572723076923

00:35:38.980 --> 00:35:41.039 in in considering this guidance,  
NOTE Confidence: 0.909572723076923

00:35:41.040 --> 00:35:43.970 the way that we interpret CT's and  
NOTE Confidence: 0.909572723076923

00:35:43.970 --> 00:35:46.524 MRI's in patients with cirrhosis is  
NOTE Confidence: 0.909572723076923

00:35:46.524 --> 00:35:48.348 very standard because the reason that  
NOTE Confidence: 0.909572723076923

00:35:48.348 --> 00:35:50.327 we can make this diagnosis without  
NOTE Confidence: 0.909572723076923

00:35:50.327 --> 00:35:52.665 a biopsy is that these tumors look

NOTE Confidence: 0.909572723076923

00:35:52.724 --> 00:35:54.540 very characteristic on imaging.

NOTE Confidence: 0.909572723076923

00:35:54.540 --> 00:35:56.255 And this has guided our field for

NOTE Confidence: 0.909572723076923

00:35:56.255 --> 00:35:58.748 a long time and for a long time we

NOTE Confidence: 0.909572723076923

00:35:58.748 --> 00:36:00.760 actually argued against doing biopsy because.

NOTE Confidence: 0.909572723076923

00:36:00.760 --> 00:36:02.530 They feared tumor seeding especially

NOTE Confidence: 0.909572723076923

00:36:02.530 --> 00:36:03.946 in the transplant patient.

NOTE Confidence: 0.909572723076923

00:36:03.950 --> 00:36:05.906 But really tumor seeding is very,

NOTE Confidence: 0.909572723076923

00:36:05.910 --> 00:36:07.860 very rare and nowadays we have

NOTE Confidence: 0.909572723076923

00:36:07.860 --> 00:36:09.740 better technology and the way we

NOTE Confidence: 0.909572723076923

00:36:09.740 --> 00:36:11.025 do biopsies and so it's,

NOTE Confidence: 0.909572723076923

00:36:11.030 --> 00:36:13.088 it's quite rare and good hands.

NOTE Confidence: 0.909572723076923

00:36:13.090 --> 00:36:15.466 And So what we've tried to do is explain

NOTE Confidence: 0.909572723076923

00:36:15.466 --> 00:36:18.016 that biopsy actually may be very important,

NOTE Confidence: 0.909572723076923

00:36:18.020 --> 00:36:19.855 especially when you're not entirely

NOTE Confidence: 0.909572723076923

00:36:19.855 --> 00:36:22.011 certain because some therapies can be

NOTE Confidence: 0.909572723076923

00:36:22.011 --> 00:36:23.845 offered and you may lose your window.

NOTE Confidence: 0.909572723076923

00:36:23.850 --> 00:36:25.850 So now we actually recommend

NOTE Confidence: 0.909572723076923

00:36:25.850 --> 00:36:28.500 biopsy and lyrids 4, probable HCC,

NOTE Confidence: 0.909572723076923

00:36:28.500 --> 00:36:31.125 lyrids 5, you certainly can.

NOTE Confidence: 0.909572723076923

00:36:31.130 --> 00:36:32.186 Biopsy when they're deaf,

NOTE Confidence: 0.909572723076923

00:36:32.186 --> 00:36:32.450 quote,

NOTE Confidence: 0.909572723076923

00:36:32.450 --> 00:36:33.242 UN quote,

NOTE Confidence: 0.909572723076923

00:36:33.242 --> 00:36:34.826 definitely HTC and lyrids

NOTE Confidence: 0.909572723076923

00:36:34.826 --> 00:36:36.410 malignancy means you can't

NOTE Confidence: 0.7430685903125

00:36:36.475 --> 00:36:38.515 really determine if it's an HTC.

NOTE Confidence: 0.7430685903125

00:36:38.520 --> 00:36:40.774 So biopsy was always the norm there.

NOTE Confidence: 0.7430685903125

00:36:40.780 --> 00:36:43.036 And then if you have tumor in vain,

NOTE Confidence: 0.7430685903125

00:36:43.040 --> 00:36:46.019 you may be able to biopsy to do Umm,

NOTE Confidence: 0.7430685903125

00:36:46.020 --> 00:36:47.016 you know, testing,

NOTE Confidence: 0.7430685903125

00:36:47.016 --> 00:36:48.460 for example, a tumor profiling.

NOTE Confidence: 0.7430685903125

00:36:48.460 --> 00:36:51.009 So I think we'd like to see more and

NOTE Confidence: 0.7430685903125

00:36:51.009 --> 00:36:53.347 more biopsies being done and being done

NOTE Confidence: 0.7430685903125

00:36:53.347 --> 00:36:55.378 rationally across the continuum of care,

NOTE Confidence: 0.7430685903125

00:36:55.380 --> 00:36:57.772 but this guidance is at least an opening

NOTE Confidence: 0.7430685903125

00:36:57.772 --> 00:37:00.464 to try to get people to think about it.

NOTE Confidence: 0.7430685903125

00:37:00.470 --> 00:37:02.724 So now the choice of systemic therapies,

NOTE Confidence: 0.7430685903125

00:37:02.730 --> 00:37:04.914 these are people who have either

NOTE Confidence: 0.7430685903125

00:37:04.914 --> 00:37:06.006 that diffuse infiltrative,

NOTE Confidence: 0.7430685903125

00:37:06.010 --> 00:37:07.990 extensive by lobar liver involvement,

NOTE Confidence: 0.7430685903125

00:37:07.990 --> 00:37:08.966 they're called.

NOTE Confidence: 0.7430685903125

00:37:08.966 --> 00:37:10.918 Intermediate stage or advanced

NOTE Confidence: 0.7430685903125

00:37:10.918 --> 00:37:13.672 stage when they have tumor that

NOTE Confidence: 0.7430685903125

00:37:13.672 --> 00:37:16.078 goes outside the liver or tumor

NOTE Confidence: 0.7430685903125

00:37:16.078 --> 00:37:18.886 that's in the lymph nodes or veins.

NOTE Confidence: 0.7430685903125

00:37:18.890 --> 00:37:21.734 So we have a lot of new therapies and

NOTE Confidence: 0.7430685903125

00:37:21.734 --> 00:37:24.684 here you can see trials that have been,

NOTE Confidence: 0.7430685903125

00:37:24.690 --> 00:37:26.370 these are FDA approved drugs,  
NOTE Confidence: 0.7430685903125

00:37:26.370 --> 00:37:27.684 their superiority trials,  
NOTE Confidence: 0.7430685903125

00:37:27.684 --> 00:37:30.750 non inferiority trials in phase two trials.  
NOTE Confidence: 0.7430685903125

00:37:30.750 --> 00:37:32.542 I'm not going to go into this  
NOTE Confidence: 0.7430685903125

00:37:32.542 --> 00:37:34.155 because I think this audience  
NOTE Confidence: 0.7430685903125

00:37:34.155 --> 00:37:36.110 understands how these agents work,  
NOTE Confidence: 0.7430685903125

00:37:36.110 --> 00:37:39.450 but what I can tell you is that we have.  
NOTE Confidence: 0.7430685903125

00:37:39.450 --> 00:37:41.490 Had an onslaught of agents and  
NOTE Confidence: 0.7430685903125

00:37:41.490 --> 00:37:44.086 really a very short period of time.  
NOTE Confidence: 0.7430685903125

00:37:44.090 --> 00:37:45.998 So just like we used to get dizzy when  
NOTE Confidence: 0.7430685903125

00:37:45.998 --> 00:37:47.916 we had all the new hep C therapies.  
NOTE Confidence: 0.7430685903125

00:37:47.920 --> 00:37:49.223 And I used to say to myself, oh,  
NOTE Confidence: 0.7430685903125

00:37:49.223 --> 00:37:51.274 thank God, I'm not a virologist now.  
NOTE Confidence: 0.7430685903125

00:37:51.280 --> 00:37:52.918 I'm like, oh gosh, thank God,  
NOTE Confidence: 0.7430685903125

00:37:52.920 --> 00:37:53.732 I'm not an oncologist,  
NOTE Confidence: 0.7430685903125

00:37:53.732 --> 00:37:54.747 but it's really not true.

NOTE Confidence: 0.7430685903125  
00:37:54.750 --> 00:37:56.110 I think we actually,  
NOTE Confidence: 0.7430685903125  
00:37:56.110 --> 00:37:57.470 we actually understand these  
NOTE Confidence: 0.7430685903125  
00:37:57.470 --> 00:37:58.490 agents very well.  
NOTE Confidence: 0.7430685903125  
00:37:58.490 --> 00:38:00.730 And I think those of us who do  
NOTE Confidence: 0.7430685903125  
00:38:00.730 --> 00:38:02.369 immune therapies like for example,  
NOTE Confidence: 0.7430685903125  
00:38:02.370 --> 00:38:05.090 inflammatory bowel disease or transplant,  
NOTE Confidence: 0.7430685903125  
00:38:05.090 --> 00:38:07.025 we're actually pretty savvy with  
NOTE Confidence: 0.7430685903125  
00:38:07.025 --> 00:38:08.708 using immune therapies, so.  
NOTE Confidence: 0.7430685903125  
00:38:08.708 --> 00:38:10.780 We understand this language,  
NOTE Confidence: 0.7430685903125  
00:38:10.780 --> 00:38:12.125 we understand the side effect  
NOTE Confidence: 0.7430685903125  
00:38:12.125 --> 00:38:13.759 profiles and we're very happy that  
NOTE Confidence: 0.7430685903125  
00:38:13.759 --> 00:38:15.397 there are a lot of different agents.  
NOTE Confidence: 0.7430685903125  
00:38:15.400 --> 00:38:17.444 I think the question is, you know,  
NOTE Confidence: 0.7430685903125  
00:38:17.444 --> 00:38:19.418 where and when do we use these  
NOTE Confidence: 0.7430685903125  
00:38:19.418 --> 00:38:20.480 agents and in whom,  
NOTE Confidence: 0.7430685903125

00:38:20.480 --> 00:38:22.466 and we're not really sure yet.  
NOTE Confidence: 0.7430685903125

00:38:22.470 --> 00:38:24.647 So you can see that just in  
NOTE Confidence: 0.7430685903125

00:38:24.647 --> 00:38:26.008 the last five years,  
NOTE Confidence: 0.7430685903125

00:38:26.008 --> 00:38:27.853 we've had eight new sort  
NOTE Confidence: 0.7430685903125

00:38:27.853 --> 00:38:29.729 of regimens come to market.  
NOTE Confidence: 0.7430685903125

00:38:29.730 --> 00:38:31.458 What I do want to show on this  
NOTE Confidence: 0.7430685903125

00:38:31.458 --> 00:38:33.290 slide is that in the sharp trial,  
NOTE Confidence: 0.7430685903125

00:38:33.290 --> 00:38:36.632 the overall survival in that population  
NOTE Confidence: 0.7430685903125

00:38:36.632 --> 00:38:40.663 in the placebo arm was 7.9 months and  
NOTE Confidence: 0.7430685903125

00:38:40.663 --> 00:38:43.366 the sorafenib arm was 10.7 months.  
NOTE Confidence: 0.7430685903125

00:38:43.366 --> 00:38:45.406 So that's median overall survival.  
NOTE Confidence: 0.7430685903125

00:38:45.410 --> 00:38:48.012 And flash forward now to 2022  
NOTE Confidence: 0.7430685903125

00:38:48.012 --> 00:38:50.748 and you can see that for all the  
NOTE Confidence: 0.7430685903125

00:38:50.748 --> 00:38:52.490 verses sorafenib trials.  
NOTE Confidence: 0.7430685903125

00:38:52.490 --> 00:38:54.530 The survival is actually quite a bit longer.  
NOTE Confidence: 0.7430685903125

00:38:54.530 --> 00:38:55.940 We're looking at about anywhere

NOTE Confidence: 0.7430685903125

00:38:55.940 --> 00:38:57.350 from 12 to 14 months.

NOTE Confidence: 0.7430685903125

00:38:57.350 --> 00:38:59.210 So we've definitely moved the

NOTE Confidence: 0.7430685903125

00:38:59.210 --> 00:39:01.070 needle on probably patient selection

NOTE Confidence: 0.7430685903125

00:39:01.132 --> 00:39:02.597 and other things you know,

NOTE Confidence: 0.7430685903125

00:39:02.600 --> 00:39:04.945 getting used to using these drugs etcetera.

NOTE Confidence: 0.7430685903125

00:39:04.950 --> 00:39:08.086 So I think what you've seen is actually.

NOTE Confidence: 0.7430685903125

00:39:08.090 --> 00:39:09.506 The field and the Natural History

NOTE Confidence: 0.7430685903125

00:39:09.506 --> 00:39:11.405 of the field moving as well and you

NOTE Confidence: 0.7430685903125

00:39:11.405 --> 00:39:12.767 can't really take that for granted.

NOTE Confidence: 0.7430685903125

00:39:12.770 --> 00:39:13.880 I think it's an important thing

NOTE Confidence: 0.7430685903125

00:39:13.880 --> 00:39:15.040 that people don't talk about much,

NOTE Confidence: 0.7430685903125

00:39:15.040 --> 00:39:17.230 but getting used to using TI's in

NOTE Confidence: 0.7430685903125

00:39:17.230 --> 00:39:19.005 patients with liver disease was

NOTE Confidence: 0.7430685903125

00:39:19.005 --> 00:39:20.240 pretty difficult. All right.

NOTE Confidence: 0.7430685903125

00:39:20.240 --> 00:39:21.540 So here's our current paradigm.

NOTE Confidence: 0.931611456

00:39:21.540 --> 00:39:23.560 It's based on clinical characteristics.  
NOTE Confidence: 0.931611456

00:39:23.560 --> 00:39:25.954 So we look at advanced stage HCC,  
NOTE Confidence: 0.931611456

00:39:25.960 --> 00:39:28.998 either BCLC or intermediate stage B with,  
NOTE Confidence: 0.931611456

00:39:29.000 --> 00:39:32.150 you know, those caveats as I mentioned.  
NOTE Confidence: 0.931611456

00:39:32.150 --> 00:39:33.665 We want to think about  
NOTE Confidence: 0.931611456

00:39:33.665 --> 00:39:34.877 contraindications for immune therapy,  
NOTE Confidence: 0.931611456

00:39:34.880 --> 00:39:36.614 which is something we didn't think  
NOTE Confidence: 0.931611456

00:39:36.614 --> 00:39:38.569 about until these drugs came to market.  
NOTE Confidence: 0.931611456

00:39:38.570 --> 00:39:40.290 So what kind of autoimmune  
NOTE Confidence: 0.931611456

00:39:40.290 --> 00:39:42.010 disorders does a patient have?  
NOTE Confidence: 0.931611456

00:39:42.010 --> 00:39:44.348 Might they be going for liver transplant?  
NOTE Confidence: 0.931611456

00:39:44.350 --> 00:39:46.226 Should we check with the liver transplant  
NOTE Confidence: 0.931611456

00:39:46.226 --> 00:39:48.523 Center if there if they would be OK with  
NOTE Confidence: 0.931611456

00:39:48.523 --> 00:39:50.267 transplanting a person who received an  
NOTE Confidence: 0.931611456

00:39:50.267 --> 00:39:52.264 immune checkpoint inhibitor and then we  
NOTE Confidence: 0.931611456

00:39:52.264 --> 00:39:54.350 actually have to think about other things.

NOTE Confidence: 0.931611456

00:39:54.350 --> 00:39:57.654 So right now the first line choice

NOTE Confidence: 0.931611456

00:39:57.654 --> 00:40:00.210 is atezolizumab and bevacizumab.

NOTE Confidence: 0.931611456

00:40:00.210 --> 00:40:01.715 Bevacizumab is a VEGF inhibitor

NOTE Confidence: 0.931611456

00:40:01.715 --> 00:40:03.790 with a higher risk of bleeding.

NOTE Confidence: 0.931611456

00:40:03.790 --> 00:40:05.438 And so in the in brave 150 trial

NOTE Confidence: 0.931611456

00:40:05.438 --> 00:40:07.307 which is what brought this to market,

NOTE Confidence: 0.931611456

00:40:07.310 --> 00:40:08.586 they did an EGD.

NOTE Confidence: 0.931611456

00:40:08.586 --> 00:40:10.500 Within six months of the patients

NOTE Confidence: 0.931611456

00:40:10.566 --> 00:40:11.970 going on this regimen,

NOTE Confidence: 0.931611456

00:40:11.970 --> 00:40:13.690 not a great real-world thing.

NOTE Confidence: 0.931611456

00:40:13.690 --> 00:40:14.908 It's really hard to get all

NOTE Confidence: 0.931611456

00:40:14.908 --> 00:40:16.069 these people in for an EGD.

NOTE Confidence: 0.931611456

00:40:16.070 --> 00:40:16.844 The problem is,

NOTE Confidence: 0.931611456

00:40:16.844 --> 00:40:18.392 what if they actually find varices

NOTE Confidence: 0.931611456

00:40:18.392 --> 00:40:20.329 and there was no stigmata of bleeding?

NOTE Confidence: 0.931611456

00:40:20.330 --> 00:40:21.390 Then what do we do?  
NOTE Confidence: 0.931611456

00:40:21.390 --> 00:40:22.124 And actually,  
NOTE Confidence: 0.931611456

00:40:22.124 --> 00:40:24.693 the trial said that they were treated  
NOTE Confidence: 0.931611456

00:40:24.693 --> 00:40:26.508 according to institutional norms,  
NOTE Confidence: 0.931611456

00:40:26.510 --> 00:40:27.950 which is a big Gray area.  
NOTE Confidence: 0.931611456

00:40:27.950 --> 00:40:29.441 But my thought is if they don't  
NOTE Confidence: 0.931611456

00:40:29.441 --> 00:40:30.530 have stigmata of bleeding,  
NOTE Confidence: 0.931611456

00:40:30.530 --> 00:40:31.331 try the drug,  
NOTE Confidence: 0.931611456

00:40:31.331 --> 00:40:33.200 make sure you tell the person there's  
NOTE Confidence: 0.931611456

00:40:33.257 --> 00:40:34.829 a higher risk of bleeding and,  
NOTE Confidence: 0.931611456

00:40:34.830 --> 00:40:36.825 you know, don't bother banding them and  
NOTE Confidence: 0.931611456

00:40:36.825 --> 00:40:38.678 putting off their therapy for months.  
NOTE Confidence: 0.931611456

00:40:38.680 --> 00:40:39.884 That's kind of ridiculous.  
NOTE Confidence: 0.931611456

00:40:39.884 --> 00:40:42.036 So there's now a lot of real  
NOTE Confidence: 0.931611456

00:40:42.036 --> 00:40:44.017 world OHS that came out of these  
NOTE Confidence: 0.931611456

00:40:44.017 --> 00:40:45.728 trials as as always happens,

NOTE Confidence: 0.931611456

00:40:45.730 --> 00:40:47.810 but we have to think about these things.

NOTE Confidence: 0.931611456

00:40:47.810 --> 00:40:48.598 So Ateso,

NOTE Confidence: 0.931611456

00:40:48.598 --> 00:40:52.070 Bev is the first line choice for our

NOTE Confidence: 0.931611456

00:40:52.070 --> 00:40:55.570 patients if they can have these drugs.

NOTE Confidence: 0.931611456

00:40:55.570 --> 00:40:56.858 Tremelimumab and durvalumab just

NOTE Confidence: 0.931611456

00:40:56.858 --> 00:40:59.101 came on the market and then there

NOTE Confidence: 0.931611456

00:40:59.101 --> 00:41:00.865 are a lot of people who can't

NOTE Confidence: 0.931611456

00:41:00.865 --> 00:41:02.074 have immune checkpoint inhibitors

NOTE Confidence: 0.931611456

00:41:02.074 --> 00:41:04.006 and they can still get TI.

NOTE Confidence: 0.931611456

00:41:04.010 --> 00:41:06.298 The areas that are sort of dashed and

NOTE Confidence: 0.931611456

00:41:06.298 --> 00:41:08.988 Gray are sort of entirely data free zones.

NOTE Confidence: 0.931611456

00:41:08.990 --> 00:41:10.796 So these areas here if you can.

NOTE Confidence: 0.931611456

00:41:10.800 --> 00:41:11.404 My cursor,

NOTE Confidence: 0.931611456

00:41:11.404 --> 00:41:13.216 which I don't think you can.

NOTE Confidence: 0.931611456

00:41:13.220 --> 00:41:15.932 So what happens if they got an immune

NOTE Confidence: 0.931611456

00:41:15.932 --> 00:41:17.838 checkpoint inhibitor in for in frontline,  
NOTE Confidence: 0.931611456

00:41:17.840 --> 00:41:19.640 you know, can they go back to a TKI.  
NOTE Confidence: 0.931611456

00:41:19.640 --> 00:41:21.422 So these are things we're not  
NOTE Confidence: 0.931611456

00:41:21.422 --> 00:41:22.313 entirely sure of.  
NOTE Confidence: 0.931611456

00:41:22.320 --> 00:41:26.065 So there's a lot of room to  
NOTE Confidence: 0.931611456

00:41:26.065 --> 00:41:27.670 study these things.  
NOTE Confidence: 0.931611456

00:41:27.670 --> 00:41:29.668 What's important is what we're missing,  
NOTE Confidence: 0.931611456

00:41:29.670 --> 00:41:31.077 which is that all of these trials  
NOTE Confidence: 0.931611456

00:41:31.077 --> 00:41:32.710 are done in child Pugh a patients.  
NOTE Confidence: 0.931611456

00:41:32.710 --> 00:41:34.906 So these are well compensated patients.  
NOTE Confidence: 0.931611456

00:41:34.910 --> 00:41:35.720 They look fine.  
NOTE Confidence: 0.931611456

00:41:35.720 --> 00:41:37.070 They don't have any complications  
NOTE Confidence: 0.931611456

00:41:37.070 --> 00:41:38.653 of their liver disease and actually  
NOTE Confidence: 0.931611456

00:41:38.653 --> 00:41:40.135 a lot of our patients have  
NOTE Confidence: 0.931611456

00:41:40.187 --> 00:41:41.797 complications of liver disease when  
NOTE Confidence: 0.931611456

00:41:41.797 --> 00:41:43.407 they're diagnosed with their HCC.

NOTE Confidence: 0.931611456

00:41:43.410 --> 00:41:45.678 So we want agents that can help

NOTE Confidence: 0.931611456

00:41:45.678 --> 00:41:47.479 with Child Pugh B patients.

NOTE Confidence: 0.931611456

00:41:47.480 --> 00:41:49.748 These are patients who you know

NOTE Confidence: 0.931611456

00:41:49.748 --> 00:41:51.518 may have a low albumin.

NOTE Confidence: 0.931611456

00:41:51.518 --> 00:41:53.176 They may have, you know,

NOTE Confidence: 0.931611456

00:41:53.176 --> 00:41:53.822 prolonged INR,

NOTE Confidence: 0.931611456

00:41:53.822 --> 00:41:55.437 they may have trace societies

NOTE Confidence: 0.931611456

00:41:55.437 --> 00:41:57.190 that's controlled with diuretics,

NOTE Confidence: 0.931611456

00:41:57.190 --> 00:41:58.022 for example.

NOTE Confidence: 0.931611456

00:41:58.022 --> 00:42:01.350 So as part of our recommendations we really

NOTE Confidence: 0.883999418095238

00:42:01.431 --> 00:42:04.239 think that well selected child pubby

NOTE Confidence: 0.883999418095238

00:42:04.239 --> 00:42:06.640 patients should be offered either

NOTE Confidence: 0.883999418095238

00:42:06.640 --> 00:42:08.565 TI's which have been studied in them

NOTE Confidence: 0.883999418095238

00:42:08.565 --> 00:42:10.881 or single agent anti PD one or anti

NOTE Confidence: 0.883999418095238

00:42:10.881 --> 00:42:12.311 PDL 1 immune checkpoint inhibitors

NOTE Confidence: 0.883999418095238

00:42:12.368 --> 00:42:13.852 combination therapies really haven't  
NOTE Confidence: 0.883999418095238

00:42:13.852 --> 00:42:16.078 been looked at in these patients.  
NOTE Confidence: 0.883999418095238

00:42:16.080 --> 00:42:18.656 So I think we have to treat  
NOTE Confidence: 0.883999418095238

00:42:18.656 --> 00:42:19.760 those patients carefully.  
NOTE Confidence: 0.883999418095238

00:42:19.760 --> 00:42:21.622 So I think one of the problems  
NOTE Confidence: 0.883999418095238

00:42:21.622 --> 00:42:23.352 that we have with understanding  
NOTE Confidence: 0.883999418095238

00:42:23.352 --> 00:42:25.517 the data around immune checkpoint  
NOTE Confidence: 0.883999418095238

00:42:25.517 --> 00:42:27.994 inhibitors is how variable the.  
NOTE Confidence: 0.883999418095238

00:42:27.994 --> 00:42:30.450 The. Predictability of responses.  
NOTE Confidence: 0.883999418095238

00:42:30.450 --> 00:42:33.145 So these are people who had a partial  
NOTE Confidence: 0.883999418095238

00:42:33.145 --> 00:42:35.280 response and a goal triangle and you  
NOTE Confidence: 0.883999418095238

00:42:35.351 --> 00:42:37.455 can see it's all over the map and  
NOTE Confidence: 0.883999418095238

00:42:37.455 --> 00:42:39.447 there are people who have really,  
NOTE Confidence: 0.883999418095238

00:42:39.450 --> 00:42:42.170 really long ongoing responses until  
NOTE Confidence: 0.883999418095238

00:42:42.170 --> 00:42:44.890 they then develop progressive disease.  
NOTE Confidence: 0.883999418095238

00:42:44.890 --> 00:42:47.725 So all of the arrows are people who were

NOTE Confidence: 0.883999418095238  
00:42:47.725 --> 00:42:50.405 still alive after 72 months towards that end.  
NOTE Confidence: 0.883999418095238  
00:42:50.405 --> 00:42:52.766 And then all of the, Umm, you know,  
NOTE Confidence: 0.883999418095238  
00:42:52.766 --> 00:42:54.638 blocks where they end show where  
NOTE Confidence: 0.883999418095238  
00:42:54.638 --> 00:42:56.870 they progressed and and passed away.  
NOTE Confidence: 0.883999418095238  
00:42:56.870 --> 00:42:57.608 But I mean,  
NOTE Confidence: 0.883999418095238  
00:42:57.608 --> 00:42:59.530 I think that the interesting thing here is.  
NOTE Confidence: 0.883999418095238  
00:42:59.530 --> 00:43:01.686 Well, who are these people who can  
NOTE Confidence: 0.883999418095238  
00:43:01.686 --> 00:43:03.989 have this 72 month long response?  
NOTE Confidence: 0.883999418095238  
00:43:03.990 --> 00:43:06.566 So this that data was from the keynote  
NOTE Confidence: 0.883999418095238  
00:43:06.570 --> 00:43:08.515 224 trial which was pembrolizumab  
NOTE Confidence: 0.883999418095238  
00:43:08.515 --> 00:43:10.460 after progression of disease with  
NOTE Confidence: 0.883999418095238  
00:43:10.519 --> 00:43:12.430 sorafenib and I think this is what  
NOTE Confidence: 0.883999418095238  
00:43:12.430 --> 00:43:14.407 really got a lot of us thinking.  
NOTE Confidence: 0.883999418095238  
00:43:14.410 --> 00:43:16.030 But more recent data that comes  
NOTE Confidence: 0.883999418095238  
00:43:16.030 --> 00:43:18.571 out of the in brave 150 At's above  
NOTE Confidence: 0.883999418095238

00:43:18.571 --> 00:43:20.773 trial really shows us the landscape  
NOTE Confidence: 0.883999418095238

00:43:20.773 --> 00:43:23.110 of the immune profiles of these  
NOTE Confidence: 0.883999418095238

00:43:23.110 --> 00:43:25.809 patients and the fact that the ratio  
NOTE Confidence: 0.883999418095238

00:43:25.809 --> 00:43:28.329 of T regulatory to effector T cells  
NOTE Confidence: 0.883999418095238

00:43:28.329 --> 00:43:30.790 really matters in terms of survival,  
NOTE Confidence: 0.883999418095238

00:43:30.790 --> 00:43:33.090 especially with immune checkpoint inhibitors.  
NOTE Confidence: 0.883999418095238

00:43:33.090 --> 00:43:35.184 So I think this is definitely  
NOTE Confidence: 0.883999418095238

00:43:35.184 --> 00:43:37.027 getting towards the more personalized  
NOTE Confidence: 0.883999418095238

00:43:37.027 --> 00:43:39.652 approach and how to figure out who  
NOTE Confidence: 0.883999418095238

00:43:39.652 --> 00:43:41.249 should get these drugs,  
NOTE Confidence: 0.883999418095238

00:43:41.250 --> 00:43:41.531 Umm,  
NOTE Confidence: 0.883999418095238

00:43:41.531 --> 00:43:43.217 some of the interesting things that  
NOTE Confidence: 0.883999418095238

00:43:43.217 --> 00:43:44.440 have been published lately.  
NOTE Confidence: 0.883999418095238

00:43:44.440 --> 00:43:47.216 And the GI world or liver world is  
NOTE Confidence: 0.883999418095238

00:43:47.216 --> 00:43:50.036 this paper that looks at you know  
NOTE Confidence: 0.883999418095238

00:43:50.036 --> 00:43:52.128 essentially frontline PD1 inhibition

NOTE Confidence: 0.883999418095238  
00:43:52.128 --> 00:43:54.949 or PD1 treatment compared to receiving  
NOTE Confidence: 0.883999418095238  
00:43:54.949 --> 00:43:57.990 a PD1 as a second line or third line.  
NOTE Confidence: 0.883999418095238  
00:43:57.990 --> 00:44:00.006 So here you can see that if you  
NOTE Confidence: 0.883999418095238  
00:44:00.006 --> 00:44:01.890 start with PD one and first line,  
NOTE Confidence: 0.883999418095238  
00:44:01.890 --> 00:44:03.462 it's more likely that you're going  
NOTE Confidence: 0.883999418095238  
00:44:03.462 --> 00:44:05.337 to have a complete remission or a  
NOTE Confidence: 0.883999418095238  
00:44:05.337 --> 00:44:06.879 partial response as opposed to if  
NOTE Confidence: 0.883999418095238  
00:44:06.879 --> 00:44:08.735 you start in second line and third  
NOTE Confidence: 0.883999418095238  
00:44:08.735 --> 00:44:10.736 line when you're more likely to have  
NOTE Confidence: 0.883999418095238  
00:44:10.736 --> 00:44:12.668 stable disease or progression of disease.  
NOTE Confidence: 0.883999418095238  
00:44:12.670 --> 00:44:14.315 So this was a pretty small trial  
NOTE Confidence: 0.883999418095238  
00:44:14.315 --> 00:44:15.020 and there were.  
NOTE Confidence: 0.883999418095238  
00:44:15.020 --> 00:44:17.852 Issues in terms of the timing of biopsies  
NOTE Confidence: 0.883999418095238  
00:44:17.852 --> 00:44:20.809 and the timing of duration of disease.  
NOTE Confidence: 0.883999418095238  
00:44:20.810 --> 00:44:23.239 But what you can see is that  
NOTE Confidence: 0.883999418095238

00:44:23.239 --> 00:44:24.807 clearly over overall survival

NOTE Confidence: 0.883999418095238

00:44:24.807 --> 00:44:27.072 and progression free survival and

NOTE Confidence: 0.883999418095238

00:44:27.072 --> 00:44:29.832 frontline anti PD one therapy for

NOTE Confidence: 0.883999418095238

00:44:29.832 --> 00:44:32.007 HCC is really quite impressive.

NOTE Confidence: 0.883999418095238

00:44:32.010 --> 00:44:34.242 What is even more interesting about

NOTE Confidence: 0.883999418095238

00:44:34.242 --> 00:44:36.715 this paper which just came out was

NOTE Confidence: 0.883999418095238

00:44:36.715 --> 00:44:38.857 really that they were able to take

NOTE Confidence: 0.883999418095238

00:44:38.932 --> 00:44:42.314 and develop sort of a a signature and

NOTE Confidence: 0.883999418095238

00:44:42.314 --> 00:44:45.320 the signature this is basically a.

NOTE Confidence: 0.883999418095238

00:44:45.320 --> 00:44:47.312 Interferon antigen presenting signature

NOTE Confidence: 0.883999418095238

00:44:47.312 --> 00:44:50.300 they called it if interferon AP

NOTE Confidence: 0.883999418095238

00:44:50.371 --> 00:44:52.870 essentially and what you can see is

NOTE Confidence: 0.883999418095238

00:44:52.870 --> 00:44:55.429 that people who had the signature

NOTE Confidence: 0.883999418095238

00:44:55.429 --> 00:44:57.779 obviously they had increased CD4

NOTE Confidence: 0.883999418095238

00:44:57.779 --> 00:45:00.020 memory activated T cells and M1

NOTE Confidence: 0.883999418095238

00:45:00.020 --> 00:45:01.970 macrophages and plasma cells in the

NOTE Confidence: 0.8469648233333333  
00:45:02.042 --> 00:45:04.384 tumor microenvironment. They responded.  
NOTE Confidence: 0.8469648233333333  
00:45:04.384 --> 00:45:06.494 The non responders really had  
NOTE Confidence: 0.8469648233333333  
00:45:06.494 --> 00:45:09.044 significantly higher you know T regulatory  
NOTE Confidence: 0.8469648233333333  
00:45:09.044 --> 00:45:11.079 cells in the tumor microenvironment.  
NOTE Confidence: 0.8469648233333333  
00:45:11.080 --> 00:45:13.696 So I think we're getting more and more  
NOTE Confidence: 0.8469648233333333  
00:45:13.696 --> 00:45:15.190 into personalization but obviously.  
NOTE Confidence: 0.8469648233333333  
00:45:15.190 --> 00:45:16.996 These trials had big data repositories  
NOTE Confidence: 0.8469648233333333  
00:45:16.996 --> 00:45:18.750 and they're just still reporting,  
NOTE Confidence: 0.8469648233333333  
00:45:18.750 --> 00:45:20.654 so I think the next couple of  
NOTE Confidence: 0.8469648233333333  
00:45:20.654 --> 00:45:22.610 years will be very interesting.  
NOTE Confidence: 0.8469648233333333  
00:45:22.610 --> 00:45:24.248 So I think bottom line is we  
NOTE Confidence: 0.8469648233333333  
00:45:24.248 --> 00:45:25.332 need to collectively strive  
NOTE Confidence: 0.8469648233333333  
00:45:25.332 --> 00:45:26.668 for a personalized approach,  
NOTE Confidence: 0.8469648233333333  
00:45:26.670 --> 00:45:28.235 whether we're looking at population  
NOTE Confidence: 0.8469648233333333  
00:45:28.235 --> 00:45:30.749 health or looking at the patients biology.  
NOTE Confidence: 0.8469648233333333

00:45:30.750 --> 00:45:33.468 And so this is kind of where we were.  
NOTE Confidence: 0.8469648233333333

00:45:33.470 --> 00:45:35.360 I think we're moving more towards  
NOTE Confidence: 0.8469648233333333

00:45:35.360 --> 00:45:36.305 the tailored approach.  
NOTE Confidence: 0.8469648233333333

00:45:36.310 --> 00:45:39.100 But you can see when you kind of throw  
NOTE Confidence: 0.8469648233333333

00:45:39.100 --> 00:45:41.707 all of these populations together,  
NOTE Confidence: 0.8469648233333333

00:45:41.710 --> 00:45:43.130 give them a treatment,  
NOTE Confidence: 0.8469648233333333

00:45:43.130 --> 00:45:45.450 you get a 20% response and that's great  
NOTE Confidence: 0.8469648233333333

00:45:45.450 --> 00:45:47.609 and we can show that and that's wonderful.  
NOTE Confidence: 0.8469648233333333

00:45:47.610 --> 00:45:49.410 But the real question is who are these  
NOTE Confidence: 0.8469648233333333

00:45:49.410 --> 00:45:51.228 people who are going to respond or not  
NOTE Confidence: 0.8469648233333333

00:45:51.228 --> 00:45:53.077 going to respond and how can we actually?  
NOTE Confidence: 0.8469648233333333

00:45:53.080 --> 00:45:54.600 Properly categorize them so that  
NOTE Confidence: 0.8469648233333333

00:45:54.600 --> 00:45:56.439 they can get the treatment that  
NOTE Confidence: 0.8469648233333333

00:45:56.439 --> 00:45:58.245 they need and this is really what  
NOTE Confidence: 0.8469648233333333

00:45:58.245 --> 00:46:00.100 we're doing you know all throughout  
NOTE Confidence: 0.8469648233333333

00:46:00.100 --> 00:46:01.705 our clinical and research lives.

NOTE Confidence: 0.8469648233333333  
00:46:01.710 --> 00:46:03.540 So what are the most pressing  
NOTE Confidence: 0.8469648233333333  
00:46:03.540 --> 00:46:05.130 clinical and research related needs?  
NOTE Confidence: 0.8469648233333333  
00:46:05.130 --> 00:46:07.104 I think access to care for  
NOTE Confidence: 0.8469648233333333  
00:46:07.104 --> 00:46:08.670 prevention and screening is #1.  
NOTE Confidence: 0.8469648233333333  
00:46:08.670 --> 00:46:11.846 A lot of liver disease actually is something  
NOTE Confidence: 0.8469648233333333  
00:46:11.846 --> 00:46:14.634 that is modifiable early diagnosis.  
NOTE Confidence: 0.8469648233333333  
00:46:14.634 --> 00:46:18.638 So imaging of course liquid biopsy tissue  
NOTE Confidence: 0.8469648233333333  
00:46:18.640 --> 00:46:20.782 we need clinical blood based imaging  
NOTE Confidence: 0.8469648233333333  
00:46:20.782 --> 00:46:22.850 and tissue biomarkers for detection,  
NOTE Confidence: 0.8469648233333333  
00:46:22.850 --> 00:46:23.538 prognosis and.  
NOTE Confidence: 0.8469648233333333  
00:46:23.538 --> 00:46:24.570 Response to treatment,  
NOTE Confidence: 0.8469648233333333  
00:46:24.570 --> 00:46:26.047 I don't think it's going to be  
NOTE Confidence: 0.8469648233333333  
00:46:26.047 --> 00:46:27.050 one or the other.  
NOTE Confidence: 0.8469648233333333  
00:46:27.050 --> 00:46:28.886 I think it's going to be all of them.  
NOTE Confidence: 0.8469648233333333  
00:46:28.890 --> 00:46:30.845 And the mechanisms of pathogenesis  
NOTE Confidence: 0.8469648233333333

00:46:30.845 --> 00:46:32.800 and tumor behavior really are  
NOTE Confidence: 0.8469648233333333

00:46:32.861 --> 00:46:34.506 still in many ways unknown.  
NOTE Confidence: 0.8469648233333333

00:46:34.510 --> 00:46:35.430 We're working on it,  
NOTE Confidence: 0.8469648233333333

00:46:35.430 --> 00:46:37.430 but we have a lot of questions.  
NOTE Confidence: 0.8469648233333333

00:46:37.430 --> 00:46:39.572 The order and timing of treatments  
NOTE Confidence: 0.8469648233333333

00:46:39.572 --> 00:46:40.643 and sequential classification  
NOTE Confidence: 0.8469648233333333

00:46:40.643 --> 00:46:41.970 is really important.  
NOTE Confidence: 0.8469648233333333

00:46:41.970 --> 00:46:43.254 So revised tumor staging,  
NOTE Confidence: 0.8469648233333333

00:46:43.254 --> 00:46:45.458 we really have to start getting into  
NOTE Confidence: 0.8469648233333333

00:46:45.458 --> 00:46:47.384 it and we have to do it for stage  
NOTE Confidence: 0.8469648233333333

00:46:47.445 --> 00:46:49.615 migration and stage shift and we really  
NOTE Confidence: 0.8469648233333333

00:46:49.615 --> 00:46:51.363 need to deliver value based care.  
NOTE Confidence: 0.8469648233333333

00:46:51.363 --> 00:46:52.989 These patients need to be taken  
NOTE Confidence: 0.8469648233333333

00:46:52.989 --> 00:46:54.618 care of in a multidisciplinary.  
NOTE Confidence: 0.8469648233333333

00:46:54.620 --> 00:46:55.712 Environment where they really  
NOTE Confidence: 0.8469648233333333

00:46:55.712 --> 00:46:57.669 feel that the whole team is there

NOTE Confidence: 0.8469648233333333  
00:46:57.669 --> 00:46:59.277 for them and that they're the  
NOTE Confidence: 0.8469648233333333  
00:46:59.277 --> 00:47:00.708 Most Valuable Player on the team.  
NOTE Confidence: 0.8469648233333333  
00:47:00.710 --> 00:47:02.190 So my key takeaways,  
NOTE Confidence: 0.8469648233333333  
00:47:02.190 --> 00:47:04.410 the epidemiology of HC is shifting.  
NOTE Confidence: 0.8469648233333333  
00:47:04.410 --> 00:47:06.391 Fatty liver disease is a big new  
NOTE Confidence: 0.8469648233333333  
00:47:06.391 --> 00:47:08.439 kid on the block, no pun intended.  
NOTE Confidence: 0.8469648233333333  
00:47:08.439 --> 00:47:10.004 That was terrible. I'm sorry.  
NOTE Confidence: 0.8469648233333333  
00:47:10.004 --> 00:47:12.923 We need, we need to embrace complexity,  
NOTE Confidence: 0.8469648233333333  
00:47:12.930 --> 00:47:14.480 technology and team based care  
NOTE Confidence: 0.8469648233333333  
00:47:14.480 --> 00:47:16.488 and science to offer our patients  
NOTE Confidence: 0.8469648233333333  
00:47:16.488 --> 00:47:18.068 the best possible outcome.  
NOTE Confidence: 0.8469648233333333  
00:47:18.070 --> 00:47:20.134 So really when we break down  
NOTE Confidence: 0.8469648233333333  
00:47:20.134 --> 00:47:22.130 silos across care and science,  
NOTE Confidence: 0.8469648233333333  
00:47:22.130 --> 00:47:24.626 we actually do the best science.  
NOTE Confidence: 0.8469648233333333  
00:47:24.630 --> 00:47:25.942 They really need a  
NOTE Confidence: 0.8469648233333333

00:47:25.942 --> 00:47:26.598 multidisciplinary approach.  
NOTE Confidence: 0.8469648233333333

00:47:26.600 --> 00:47:27.885 It's the mainstay for complex  
NOTE Confidence: 0.8469648233333333

00:47:27.885 --> 00:47:29.487 decision making and I think people  
NOTE Confidence: 0.8469648233333333

00:47:29.487 --> 00:47:30.817 always feel better when they're  
NOTE Confidence: 0.8469648233333333

00:47:30.817 --> 00:47:32.328 part of a collective and really  
NOTE Confidence: 0.8469648233333333

00:47:32.328 --> 00:47:33.912 come up with a good plan of care.  
NOTE Confidence: 0.8469648233333333

00:47:33.920 --> 00:47:35.660 We should really push the envelope.  
NOTE Confidence: 0.8469648233333333

00:47:35.660 --> 00:47:37.598 It's important to push the envelope,  
NOTE Confidence: 0.8469648233333333

00:47:37.600 --> 00:47:40.659 most ideally in a clinical trial setting.  
NOTE Confidence: 0.8469648233333333

00:47:40.660 --> 00:47:42.844 And the surge in large scale  
NOTE Confidence: 0.8469648233333333

00:47:42.844 --> 00:47:44.300 observational and omic data  
NOTE Confidence: 0.872979126071429

00:47:44.365 --> 00:47:46.250 should help inform large prospective  
NOTE Confidence: 0.872979126071429

00:47:46.250 --> 00:47:48.980 trials as well as all the analytical  
NOTE Confidence: 0.872979126071429

00:47:48.980 --> 00:47:51.320 platforms we have for these data.  
NOTE Confidence: 0.872979126071429

00:47:51.320 --> 00:47:53.050 And systemic therapy options continue  
NOTE Confidence: 0.872979126071429

00:47:53.050 --> 00:47:55.340 to grow for advanced HCC patients.

NOTE Confidence: 0.872979126071429  
00:47:55.340 --> 00:47:57.444 But now is the time that we should  
NOTE Confidence: 0.872979126071429  
00:47:57.444 --> 00:47:59.112 stop looking at that 20% response  
NOTE Confidence: 0.872979126071429  
00:47:59.112 --> 00:48:01.188 and actually figuring out who we  
NOTE Confidence: 0.872979126071429  
00:48:01.188 --> 00:48:03.077 should treat when and with what.  
NOTE Confidence: 0.872979126071429  
00:48:03.080 --> 00:48:05.138 We definitely need a better understanding  
NOTE Confidence: 0.872979126071429  
00:48:05.138 --> 00:48:07.285 of when to introduce systemic therapies  
NOTE Confidence: 0.872979126071429  
00:48:07.285 --> 00:48:09.522 and there are 150 ongoing clinical trials  
NOTE Confidence: 0.872979126071429  
00:48:09.522 --> 00:48:11.650 that are going to reshape the field.  
NOTE Confidence: 0.872979126071429  
00:48:11.650 --> 00:48:14.260 In terms of adjuvant, neoadjuvant,  
NOTE Confidence: 0.872979126071429  
00:48:14.260 --> 00:48:16.180 the game is just beginning.  
NOTE Confidence: 0.872979126071429  
00:48:16.180 --> 00:48:18.920 So I really want to thank a lot of people,  
NOTE Confidence: 0.872979126071429  
00:48:18.920 --> 00:48:21.840 really most importantly Amy Justice,  
NOTE Confidence: 0.872979126071429  
00:48:21.840 --> 00:48:24.010 who really mentored me for the virtual  
NOTE Confidence: 0.872979126071429  
00:48:24.010 --> 00:48:26.795 cohort at the VA and through a lot of the  
NOTE Confidence: 0.872979126071429  
00:48:26.795 --> 00:48:29.239 work we've been doing on HIV associated HC,  
NOTE Confidence: 0.872979126071429

00:48:29.240 --> 00:48:30.580 Dave Kaplan, who's my Co,  
NOTE Confidence: 0.872979126071429

00:48:30.580 --> 00:48:31.980 Pi in the vocal study,  
NOTE Confidence: 0.872979126071429

00:48:31.980 --> 00:48:33.464 Georgianna Who's my Co  
NOTE Confidence: 0.872979126071429

00:48:33.464 --> 00:48:35.319 chair of the premium trial,  
NOTE Confidence: 0.872979126071429

00:48:35.320 --> 00:48:37.924 Mario who's mentored me for probably more  
NOTE Confidence: 0.872979126071429

00:48:37.924 --> 00:48:40.420 years than he'd like to think about,  
NOTE Confidence: 0.872979126071429

00:48:40.420 --> 00:48:42.460 Catherine Mezzacappa provided me with this.  
NOTE Confidence: 0.872979126071429

00:48:42.460 --> 00:48:44.476 Sides of her preliminary work and she  
NOTE Confidence: 0.872979126071429

00:48:44.476 --> 00:48:46.378 just received a liver pilot grant,  
NOTE Confidence: 0.872979126071429

00:48:46.380 --> 00:48:48.669 which is wonderful for her Rajni meta,  
NOTE Confidence: 0.872979126071429

00:48:48.670 --> 00:48:50.610 from the rapid case ascertainment  
NOTE Confidence: 0.872979126071429

00:48:50.610 --> 00:48:52.550 resource for the Cancer Center,  
NOTE Confidence: 0.872979126071429

00:48:52.550 --> 00:48:54.478 who's really been my right hand now for  
NOTE Confidence: 0.872979126071429

00:48:54.478 --> 00:48:56.560 well over a decade and many, many more,  
NOTE Confidence: 0.872979126071429

00:48:56.560 --> 00:48:58.210 but most importantly my patients.  
NOTE Confidence: 0.872979126071429

00:48:58.210 --> 00:48:59.689 So thank you.

NOTE Confidence: 0.9302387  
00:49:07.420 --> 00:49:07.940 Yes.  
NOTE Confidence: 0.720429575  
00:49:09.730 --> 00:49:10.260 The light.  
NOTE Confidence: 0.842106722857143  
00:49:13.930 --> 00:49:15.645 So one of the things that I  
NOTE Confidence: 0.842106722857143  
00:49:15.645 --> 00:49:17.319 think about is we do see this,  
NOTE Confidence: 0.842106722857143  
00:49:17.320 --> 00:49:19.340 as you point out, looming.  
NOTE Confidence: 0.596052425  
00:49:22.010 --> 00:49:26.018 Epidemic with Don alcohol.  
NOTE Confidence: 0.596052425  
00:49:26.020 --> 00:49:29.016 It is exciting to think about surveillance  
NOTE Confidence: 0.596052425  
00:49:29.016 --> 00:49:30.829 and seed interventions in the.  
NOTE Confidence: 0.596052425  
00:49:30.830 --> 00:49:32.192 Anti violence phase,  
NOTE Confidence: 0.596052425  
00:49:32.192 --> 00:49:34.916 but we actually have an enormous  
NOTE Confidence: 0.596052425  
00:49:34.916 --> 00:49:36.770 capacity for risk reduction  
NOTE Confidence: 0.596052425  
00:49:36.770 --> 00:49:38.530 in fatty liver disease.  
NOTE Confidence: 0.596052425  
00:49:38.530 --> 00:49:41.020 Do you have any interventions in  
NOTE Confidence: 0.596052425  
00:49:41.020 --> 00:49:43.700 the planning stages for that and  
NOTE Confidence: 0.596052425  
00:49:43.700 --> 00:49:45.580 need any prospective studies?  
NOTE Confidence: 0.888906057142857

00:49:47.110 --> 00:49:50.274 I don't have studies of my own.  
NOTE Confidence: 0.888906057142857

00:49:50.280 --> 00:49:52.192 I can tell you that I'm pretty active  
NOTE Confidence: 0.888906057142857

00:49:52.192 --> 00:49:54.080 with the American Liver Foundation.  
NOTE Confidence: 0.888906057142857

00:49:54.080 --> 00:49:58.282 That does a lot around educating the populace  
NOTE Confidence: 0.888906057142857

00:49:58.282 --> 00:50:01.940 about all of these sort of lifestyle,  
NOTE Confidence: 0.888906057142857

00:50:01.940 --> 00:50:04.212 you know, and preventative measures.  
NOTE Confidence: 0.888906057142857

00:50:04.212 --> 00:50:07.388 I think we have to start with our  
NOTE Confidence: 0.888906057142857

00:50:07.388 --> 00:50:09.588 children and I really wish that there  
NOTE Confidence: 0.888906057142857

00:50:09.588 --> 00:50:13.042 was a way that we could actually have  
NOTE Confidence: 0.888906057142857

00:50:13.042 --> 00:50:15.234 pediatricians and hepatologists, you know,  
NOTE Confidence: 0.888906057142857

00:50:15.234 --> 00:50:17.173 kind of come together and maybe maybe.  
NOTE Confidence: 0.888906057142857

00:50:17.180 --> 00:50:19.142 Maybe it's the best thing for  
NOTE Confidence: 0.888906057142857

00:50:19.142 --> 00:50:20.793 pediatric hepatologists to figure out  
NOTE Confidence: 0.888906057142857

00:50:20.793 --> 00:50:22.527 how to educate children about food,  
NOTE Confidence: 0.888906057142857

00:50:22.530 --> 00:50:25.290 food shortage, healthy eating, exercise.  
NOTE Confidence: 0.888906057142857

00:50:25.290 --> 00:50:26.874 So, you know, pharmaceuticals,

NOTE Confidence: 0.888906057142857  
00:50:26.874 --> 00:50:29.910 they're sexy and there's a lot of money.  
NOTE Confidence: 0.888906057142857  
00:50:29.910 --> 00:50:32.160 And there's really not so much  
NOTE Confidence: 0.888906057142857  
00:50:32.160 --> 00:50:34.126 money for preventive medicine and  
NOTE Confidence: 0.888906057142857  
00:50:34.126 --> 00:50:36.106 especially for these food deserts,  
NOTE Confidence: 0.888906057142857  
00:50:36.110 --> 00:50:38.350 which actually beg a much larger question  
NOTE Confidence: 0.888906057142857  
00:50:38.350 --> 00:50:40.709 of the social determinants of health.  
NOTE Confidence: 0.888906057142857  
00:50:40.710 --> 00:50:42.930 So it's a great question.  
NOTE Confidence: 0.888906057142857  
00:50:42.930 --> 00:50:44.630 It's a huge, you know,  
NOTE Confidence: 0.888906057142857  
00:50:44.630 --> 00:50:46.568 bite to take off and chew.  
NOTE Confidence: 0.888906057142857  
00:50:46.570 --> 00:50:47.650 And I haven't gone there.  
NOTE Confidence: 0.888906057142857  
00:50:47.650 --> 00:50:48.340 But it does,  
NOTE Confidence: 0.888906057142857  
00:50:48.340 --> 00:50:49.260 it does trouble me.  
NOTE Confidence: 0.888906057142857  
00:50:49.260 --> 00:50:50.996 I mean it troubles me that you know  
NOTE Confidence: 0.888906057142857  
00:50:50.996 --> 00:50:52.698 that the disparity of resource put  
NOTE Confidence: 0.888906057142857  
00:50:52.698 --> 00:50:54.310 in One Direction versus the other.  
NOTE Confidence: 0.27042085

00:50:58.480 --> 00:50:59.020 Question.  
NOTE Confidence: 0.618677115

00:51:02.140 --> 00:51:03.766 I don't understand.  
NOTE Confidence: 0.618677115

00:51:03.766 --> 00:51:08.490 What's your DNA? Endoscopies.  
NOTE Confidence: 0.88699267

00:51:10.960 --> 00:51:14.188 So we yeah. Oh, sorry.  
NOTE Confidence: 0.638228464857143

00:51:16.210 --> 00:51:18.436 If you can call back attention and  
NOTE Confidence: 0.638228464857143

00:51:18.440 --> 00:51:21.470 you've got valuable. Doesn't need, right?  
NOTE Confidence: 0.525612733333333

00:51:24.260 --> 00:51:26.549 So suppose that.  
NOTE Confidence: 0.621648143333333

00:51:31.010 --> 00:51:33.068 Yes. Patient has  
NOTE Confidence: 0.393635345

00:51:34.110 --> 00:51:35.340 significant potential.  
NOTE Confidence: 0.867354756666667

00:51:37.810 --> 00:51:38.746 What are you going to do?  
NOTE Confidence: 0.867354756666667

00:51:38.750 --> 00:51:40.442 Nothing, right? So you you you  
NOTE Confidence: 0.867354756666667

00:51:40.442 --> 00:51:42.020 did a meaningless test, right?  
NOTE Confidence: 0.57213502625

00:51:43.560 --> 00:51:44.680 Just before the treatment,  
NOTE Confidence: 0.57213502625

00:51:44.680 --> 00:51:45.800 which is not indicated,  
NOTE Confidence: 0.57213502625

00:51:45.800 --> 00:51:47.690 is outside with the guy, right?  
NOTE Confidence: 0.8547659975

00:51:49.810 --> 00:51:50.398 What do you do?

NOTE Confidence: 0.777334566666667  
00:51:52.730 --> 00:51:57.347 Right. So um. We do the endoscopy because I,  
NOTE Confidence: 0.777334566666667  
00:51:57.350 --> 00:51:59.950 I I'm working on oncology at the VA,  
NOTE Confidence: 0.777334566666667  
00:51:59.950 --> 00:52:03.470 but it's not they really want the endoscopy  
NOTE Confidence: 0.777334566666667  
00:52:03.470 --> 00:52:06.130 if there are no stigmata of bleeding,  
NOTE Confidence: 0.777334566666667  
00:52:06.130 --> 00:52:08.468 I do not band. And I say,  
NOTE Confidence: 0.777334566666667  
00:52:08.470 --> 00:52:10.210 hey look there's portal hypertension here,  
NOTE Confidence: 0.777334566666667  
00:52:10.210 --> 00:52:11.674 there's some variances, right,  
NOTE Confidence: 0.777334566666667  
00:52:11.674 --> 00:52:13.504 the patients on carvedilol and  
NOTE Confidence: 0.777334566666667  
00:52:13.504 --> 00:52:14.994 they're like OK, at least you know,  
NOTE Confidence: 0.777334566666667  
00:52:14.994 --> 00:52:16.459 at least we know what we're getting into.  
NOTE Confidence: 0.777334566666667  
00:52:16.460 --> 00:52:17.550 So the patient could bleed.  
NOTE Confidence: 0.777334566666667  
00:52:17.550 --> 00:52:19.538 I said the patient could bleed from  
NOTE Confidence: 0.777334566666667  
00:52:19.538 --> 00:52:20.889 gastritis like what's you know.  
NOTE Confidence: 0.777334566666667  
00:52:20.890 --> 00:52:23.218 So, so I think what we'd like to  
NOTE Confidence: 0.777334566666667  
00:52:23.218 --> 00:52:25.590 do and I think what we can do.  
NOTE Confidence: 0.777334566666667

00:52:25.590 --> 00:52:27.910 In the next year or two is sort of more  
NOTE Confidence: 0.777334566666667

00:52:27.971 --> 00:52:30.428 phase four kind of what's the real  
NOTE Confidence: 0.777334566666667

00:52:30.428 --> 00:52:32.416 world experience because I'm sure that  
NOTE Confidence: 0.777334566666667

00:52:32.416 --> 00:52:34.905 in the VA system people are getting a  
NOTE Confidence: 0.777334566666667

00:52:34.905 --> 00:52:37.860 Tiso Bev without a prior EGD because  
NOTE Confidence: 0.777334566666667

00:52:37.860 --> 00:52:39.820 not all centers are big enough etcetera,  
NOTE Confidence: 0.777334566666667

00:52:39.820 --> 00:52:40.122 etcetera.  
NOTE Confidence: 0.777334566666667

00:52:40.122 --> 00:52:42.236 So, so we actually have some designs  
NOTE Confidence: 0.777334566666667

00:52:42.236 --> 00:52:43.940 on doing that sort of study.  
NOTE Confidence: 0.94527125

00:52:46.140 --> 00:52:46.540 Yeah.  
NOTE Confidence: 0.823616812

00:52:48.680 --> 00:52:49.740 Yeah, they've come to us,  
NOTE Confidence: 0.823616812

00:52:49.740 --> 00:52:52.260 Mario, for the data. Yeah.  
NOTE Confidence: 0.7266337

00:52:55.610 --> 00:52:56.480 Yes, Tommy?  
NOTE Confidence: 0.36675388

00:53:05.820 --> 00:53:06.280 Umm.  
NOTE Confidence: 0.824115908888889

00:53:26.350 --> 00:53:30.616 Um, so I would say that from my experience,  
NOTE Confidence: 0.824115908888889

00:53:30.620 --> 00:53:33.230 the uptake in atisa above has

NOTE Confidence: 0.824115908888889  
00:53:33.230 --> 00:53:35.404 really only been, you know,  
NOTE Confidence: 0.824115908888889  
00:53:35.404 --> 00:53:39.810 it had a slope of uptake 2122.  
NOTE Confidence: 0.824115908888889  
00:53:39.810 --> 00:53:41.819 O I'm not sure that I can  
NOTE Confidence: 0.824115908888889  
00:53:41.819 --> 00:53:42.680 answer that question.  
NOTE Confidence: 0.824115908888889  
00:53:42.680 --> 00:53:45.088 What I can say is we're seeing much  
NOTE Confidence: 0.824115908888889  
00:53:45.088 --> 00:53:46.961 more advanced disease at presentation  
NOTE Confidence: 0.824115908888889  
00:53:46.961 --> 00:53:49.361 because people didn't come in for  
NOTE Confidence: 0.824115908888889  
00:53:49.361 --> 00:53:51.857 imaging and that is really heartbreaking,  
NOTE Confidence: 0.824115908888889  
00:53:51.860 --> 00:53:52.660 very heartbreaking.  
NOTE Confidence: 0.824115908888889  
00:53:52.660 --> 00:53:54.864 So you know, you got people who  
NOTE Confidence: 0.824115908888889  
00:53:54.864 --> 00:53:56.659 really haven't come to the VA in  
NOTE Confidence: 0.824115908888889  
00:53:56.659 --> 00:53:58.539 three years and then they come in and  
NOTE Confidence: 0.824115908888889  
00:53:58.539 --> 00:54:00.396 they have you know multifocal disease  
NOTE Confidence: 0.824115908888889  
00:54:00.396 --> 00:54:02.874 everywhere and some of them are young.  
NOTE Confidence: 0.824115908888889  
00:54:02.874 --> 00:54:05.134 So it's that's pretty awful.  
NOTE Confidence: 0.824115908888889

00:54:05.140 --> 00:54:06.220 But I don't think I've,  
NOTE Confidence: 0.824115908888889

00:54:06.220 --> 00:54:08.722 I I've have enough experience over  
NOTE Confidence: 0.824115908888889

00:54:08.722 --> 00:54:09.973 the atisa Bev.  
NOTE Confidence: 0.824115908888889

00:54:09.980 --> 00:54:12.356 FDA approval to say that there's  
NOTE Confidence: 0.824115908888889

00:54:12.356 --> 00:54:13.544 been any difference?  
NOTE Confidence: 0.824115908888889

00:54:13.550 --> 00:54:15.404 Are you thinking just about immune  
NOTE Confidence: 0.824115908888889

00:54:15.404 --> 00:54:16.640 regulation post COVID or?  
NOTE Confidence: 0.69089575

00:54:20.280 --> 00:54:21.760 Hmm. OK.  
NOTE Confidence: 0.9197201

00:54:25.560 --> 00:54:26.180 Right.  
NOTE Confidence: 0.51719034

00:54:35.440 --> 00:54:38.620 Hmm. That's an interesting thought.  
NOTE Confidence: 0.51719034

00:54:38.620 --> 00:54:41.416 I mean, I can tell you our our rates of  
NOTE Confidence: 0.51719034

00:54:41.416 --> 00:54:42.929 alcoholic hepatitis are skyrocketing,  
NOTE Confidence: 0.51719034

00:54:42.930 --> 00:54:44.976 and they're skyrocketing among young people.  
NOTE Confidence: 0.51719034

00:54:44.980 --> 00:54:47.500 So there is definitely a lot of  
NOTE Confidence: 0.51719034

00:54:47.500 --> 00:54:49.980 psychological burden from the pandemic, so.  
NOTE Confidence: 0.4190846

00:54:52.390 --> 00:54:54.740 Umm. Yeah.

NOTE Confidence: 0.871934257777778  
00:54:56.310 --> 00:54:59.118 OK. Sorry, I fell down on the job here.  
NOTE Confidence: 0.871934257777778  
00:54:59.120 --> 00:55:01.878 OK. So one of the questions was,  
NOTE Confidence: 0.871934257777778  
00:55:01.880 --> 00:55:04.448 as you mentioned, some oncologists are  
NOTE Confidence: 0.871934257777778  
00:55:04.448 --> 00:55:07.322 reluctant to use atisa Bev of smaller  
NOTE Confidence: 0.871934257777778  
00:55:07.322 --> 00:55:09.105 large varices or even hemorrhoids.  
NOTE Confidence: 0.871934257777778  
00:55:09.105 --> 00:55:11.785 Any suggestions how to convince them to use  
NOTE Confidence: 0.871934257777778  
00:55:11.785 --> 00:55:14.304 this regimen without banding? So I mean,  
NOTE Confidence: 0.871934257777778  
00:55:14.304 --> 00:55:16.307 I think thanks for that question, Simona.  
NOTE Confidence: 0.871934257777778  
00:55:16.307 --> 00:55:18.629 I think it's really basically saying,  
NOTE Confidence: 0.871934257777778  
00:55:18.630 --> 00:55:19.750 you know, we've got this,  
NOTE Confidence: 0.871934257777778  
00:55:19.750 --> 00:55:21.628 if the person bleeds were here,  
NOTE Confidence: 0.871934257777778  
00:55:21.630 --> 00:55:22.878 they know how to reach us,  
NOTE Confidence: 0.871934257777778  
00:55:22.880 --> 00:55:24.440 we know how to reach them.  
NOTE Confidence: 0.871934257777778  
00:55:24.440 --> 00:55:27.296 You know, we're available, if anything.  
NOTE Confidence: 0.871934257777778  
00:55:27.300 --> 00:55:27.768 Thumbs up.  
NOTE Confidence: 0.871934257777778

00:55:27.768 --> 00:55:29.406 You know, Yale is a center of  
NOTE Confidence: 0.871934257777778

00:55:29.406 --> 00:55:30.970 excellence in terms of hepatology care.  
NOTE Confidence: 0.871934257777778

00:55:30.970 --> 00:55:32.130 So is West Haven.  
NOTE Confidence: 0.871934257777778

00:55:32.130 --> 00:55:34.889 We know how to ban people if they bleed.  
NOTE Confidence: 0.871934257777778

00:55:34.890 --> 00:55:36.703 I think it's it's really honestly getting  
NOTE Confidence: 0.871934257777778

00:55:36.703 --> 00:55:38.322 them used to using the combination  
NOTE Confidence: 0.871934257777778

00:55:38.322 --> 00:55:40.170 and not seeing a lot of bleeding.  
NOTE Confidence: 0.871934257777778

00:55:40.170 --> 00:55:41.982 And I think it's just going  
NOTE Confidence: 0.871934257777778

00:55:41.982 --> 00:55:43.600 to be tincture of time.  
NOTE Confidence: 0.871934257777778

00:55:43.600 --> 00:55:44.665 Laura Morrison asked,  
NOTE Confidence: 0.871934257777778

00:55:44.665 --> 00:55:46.795 can you please share your latest  
NOTE Confidence: 0.871934257777778

00:55:46.795 --> 00:55:48.790 innovations and Co management of these  
NOTE Confidence: 0.871934257777778

00:55:48.790 --> 00:55:50.809 patients with palliative care at the VA,  
NOTE Confidence: 0.871934257777778

00:55:50.810 --> 00:55:53.078 the palliative care role in tumor board.  
NOTE Confidence: 0.871934257777778

00:55:53.080 --> 00:55:54.830 We see many opportunities for  
NOTE Confidence: 0.871934257777778

00:55:54.830 --> 00:55:56.580 expanding this collaboration at SMILO.

NOTE Confidence: 0.871934257777778  
00:55:56.580 --> 00:55:58.340 Our palliative care fellows always  
NOTE Confidence: 0.871934257777778  
00:55:58.340 --> 00:55:59.748 appreciate the different model  
NOTE Confidence: 0.871934257777778  
00:55:59.748 --> 00:56:01.498 at the VA that's very lovely.  
NOTE Confidence: 0.871934257777778  
00:56:01.500 --> 00:56:02.242 Thanks Laura.  
NOTE Confidence: 0.871934257777778  
00:56:02.242 --> 00:56:02.984 So yes,  
NOTE Confidence: 0.871934257777778  
00:56:02.984 --> 00:56:05.600 we are Co localized with palliative care,  
NOTE Confidence: 0.871934257777778  
00:56:05.600 --> 00:56:07.010 so they come to our clinics.  
NOTE Confidence: 0.871934257777778  
00:56:07.010 --> 00:56:09.926 We have a clinical trial that's  
NOTE Confidence: 0.871934257777778  
00:56:09.926 --> 00:56:12.320 enrolling patients and we it's a  
NOTE Confidence: 0.871934257777778  
00:56:12.320 --> 00:56:13.385 clustered randomized controlled.  
NOTE Confidence: 0.871934257777778  
00:56:13.390 --> 00:56:14.700 Trial of standard of care,  
NOTE Confidence: 0.871934257777778  
00:56:14.700 --> 00:56:17.108 palliative care intervention versus  
NOTE Confidence: 0.871934257777778  
00:56:17.108 --> 00:56:19.516 hepatology trained palliative care.  
NOTE Confidence: 0.871934257777778  
00:56:19.520 --> 00:56:21.140 So our palliative care docs,  
NOTE Confidence: 0.871934257777778  
00:56:21.140 --> 00:56:23.075 we are randomized to the  
NOTE Confidence: 0.871934257777778

00:56:23.075 --> 00:56:24.236 palliative care intervention.  
NOTE Confidence: 0.871934257777778

00:56:24.240 --> 00:56:26.389 So it's the standard of care palliative  
NOTE Confidence: 0.871934257777778

00:56:26.389 --> 00:56:28.209 care consultant and having them at  
NOTE Confidence: 0.871934257777778

00:56:28.209 --> 00:56:30.176 tumor board and in clinic is wonderful.  
NOTE Confidence: 0.871934257777778

00:56:30.180 --> 00:56:31.620 So all of our end stage  
NOTE Confidence: 0.871934257777778

00:56:31.620 --> 00:56:32.340 liver disease patients,  
NOTE Confidence: 0.871934257777778

00:56:32.340 --> 00:56:34.400 all of our multifocal HTC's,  
NOTE Confidence: 0.871934257777778

00:56:34.400 --> 00:56:37.172 they all see palliative care from the get go.  
NOTE Confidence: 0.871934257777778

00:56:37.180 --> 00:56:38.800 So it's not like this awkward  
NOTE Confidence: 0.871934257777778

00:56:38.800 --> 00:56:40.379 handoff where you're like OK now  
NOTE Confidence: 0.871934257777778

00:56:40.379 --> 00:56:41.705 you're really sick and you need  
NOTE Confidence: 0.871934257777778

00:56:41.705 --> 00:56:43.529 to see the palliative care doctor.  
NOTE Confidence: 0.871934257777778

00:56:43.530 --> 00:56:45.070 It's it's from the beginning  
NOTE Confidence: 0.871934257777778

00:56:45.070 --> 00:56:46.610 we say we work together.  
NOTE Confidence: 0.871934257777778

00:56:46.610 --> 00:56:48.234 Palliative care is a layer of support.  
NOTE Confidence: 0.871934257777778

00:56:48.240 --> 00:56:49.830 They're here to really think

NOTE Confidence: 0.871934257777778

00:56:49.830 --> 00:56:50.784 about other things.

NOTE Confidence: 0.871934257777778

00:56:50.790 --> 00:56:52.590 You may not be having any symptoms now,

NOTE Confidence: 0.871934257777778

00:56:52.590 --> 00:56:54.018 but they're going to help you get

NOTE Confidence: 0.871934257777778

00:56:54.018 --> 00:56:54.823 your logistics straightened out

NOTE Confidence: 0.871934257777778

00:56:54.823 --> 00:56:55.901 or they're going to help you get

NOTE Confidence: 0.871934257777778

00:56:55.901 --> 00:56:57.049 help into the home if you need it,

NOTE Confidence: 0.871934257777778

00:56:57.050 --> 00:56:58.660 or they're going to think about the

NOTE Confidence: 0.871934257777778

00:56:58.660 --> 00:57:00.321 things that really matter to you while

NOTE Confidence: 0.871934257777778

00:57:00.321 --> 00:57:01.701 we're focusing on your organ here,

NOTE Confidence: 0.871934257777778

00:57:01.710 --> 00:57:02.910 you know what I mean?

NOTE Confidence: 0.871934257777778

00:57:02.910 --> 00:57:04.881 So I think we all tend to be very

NOTE Confidence: 0.871934257777778

00:57:04.881 --> 00:57:06.803 myopic in specialty care where we just

NOTE Confidence: 0.871934257777778

00:57:06.803 --> 00:57:08.812 focus on the organ that we're thinking

NOTE Confidence: 0.871934257777778

00:57:08.812 --> 00:57:10.807 about and like rarely do we say,

NOTE Confidence: 0.871934257777778

00:57:10.810 --> 00:57:11.284 so you know,

NOTE Confidence: 0.871934257777778

00:57:11.284 --> 00:57:12.074 what are your goals like?  
NOTE Confidence: 0.871934257777778

00:57:12.080 --> 00:57:13.650 What's really important to you?  
NOTE Confidence: 0.871934257777778

00:57:13.650 --> 00:57:15.323 How do you want the next few  
NOTE Confidence: 0.871934257777778

00:57:15.323 --> 00:57:16.040 months to unfold?  
NOTE Confidence: 0.871934257777778

00:57:16.040 --> 00:57:17.370 Because I think a lot of us  
NOTE Confidence: 0.871934257777778

00:57:17.370 --> 00:57:18.740 are afraid of the Pandora's box  
NOTE Confidence: 0.871934257777778

00:57:18.740 --> 00:57:20.240 that's going to open because then  
NOTE Confidence: 0.871934257777778

00:57:20.240 --> 00:57:21.933 we actually may have to connect  
NOTE Confidence: 0.871934257777778

00:57:21.933 --> 00:57:23.045 with another human being.  
NOTE Confidence: 0.871934257777778

00:57:23.050 --> 00:57:24.655 And palliative care is wonderful  
NOTE Confidence: 0.871934257777778

00:57:24.655 --> 00:57:26.260 because they teach us like  
NOTE Confidence: 0.8660138

00:57:26.315 --> 00:57:28.707 I have learned so much from palliative care,  
NOTE Confidence: 0.8660138

00:57:28.710 --> 00:57:30.600 how to open a conversation,  
NOTE Confidence: 0.8660138

00:57:30.600 --> 00:57:32.320 how to ask difficult questions,  
NOTE Confidence: 0.8660138

00:57:32.320 --> 00:57:34.536 how to know when I'm over my head.  
NOTE Confidence: 0.8660138

00:57:34.540 --> 00:57:36.268 So I would say that most of us at

NOTE Confidence: 0.8660138

00:57:36.268 --> 00:57:38.078 the VA really know how to deliver,

NOTE Confidence: 0.8660138

00:57:38.080 --> 00:57:40.460 you know, primary palliative care.

NOTE Confidence: 0.8660138

00:57:40.460 --> 00:57:42.740 And we rely on palliative care

NOTE Confidence: 0.8660138

00:57:42.740 --> 00:57:44.052 for specialty palliative care,

NOTE Confidence: 0.8660138

00:57:44.052 --> 00:57:45.036 which is really.

NOTE Confidence: 0.8660138

00:57:45.040 --> 00:57:46.510 What their experts in and we're

NOTE Confidence: 0.8660138

00:57:46.510 --> 00:57:48.199 hoping that we can impart that

NOTE Confidence: 0.8660138

00:57:48.199 --> 00:57:49.507 kind of training nationally.

NOTE Confidence: 0.8660138

00:57:49.510 --> 00:57:51.498 So that's going to be the results

NOTE Confidence: 0.8660138

00:57:51.498 --> 00:57:53.560 of that study which is funded by

NOTE Confidence: 0.8660138

00:57:53.560 --> 00:57:55.952 PECORI and which is basically a it's

NOTE Confidence: 0.8660138

00:57:55.952 --> 00:57:58.436 a multi center private NBA study

NOTE Confidence: 0.8660138

00:57:58.436 --> 00:58:01.149 that's at the PI's Victor Navarro

NOTE Confidence: 0.8660138

00:58:01.149 --> 00:58:03.369 out of Jefferson in Philadelphia.

NOTE Confidence: 0.8660138

00:58:03.370 --> 00:58:04.240 Thanks Laura.

NOTE Confidence: 0.876350572857143

00:58:06.280 --> 00:58:08.688 I think that's it. Any other questions?